BENICIA CITY COUNCIL
CITY COUNCIL MEETING AGENDA

December 16, 2025
6:00 PM

Benicia City Hall, Council Chambers
250 East L Street, Benicia, CA 94510

COURTESY ZOOM PARTICIPATION
https://us02web.zoom.us/j/88508047557?pwd=cHRsZlBrYlphU3pkODcycytmcFR2UT09
Meeting ID: 885 0804 7557
Password: 449303
Phone: 1 669 900 9128

1. **CALL TO ORDER (6:00 P.M.)**

2. **CONVENE OPEN SESSION**

3. **ROLL CALL**

4. **PLEDGE OF ALLEGIANCE**

5. **REFERENCE TO THE FUNDAMENTAL RIGHTS OF THE PUBLIC**
The fundamental rights of each member of the public can be found in the municipal code posted on the City's website and on a plaque that is posted at the entrance to this meeting per section 4.04.030 of the City of Benicia's Open Government Ordinance.

6. **ANNOUNCEMENTS**

6.A MAYOR'S OFFICE HOURS

RECOMMENDED ACTION: Mayor Young maintains an open office on the first and third Mondays of the month (except holidays) in the Mayor's office of City Hall from 4:30 to 6:00 p.m. No appointment is necessary. Other meeting times may be scheduled through City Hall by calling 707-746-4200.

6.B MADDY ACT NOTICE - DECEMBER 2025
Maddy Act Notice - December 2025

7. **PROCLAMATIONS**

8. **APPOINTMENTS**

8.A A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA CONFIRMING MAYOR'S APPOINTMENTS OF MEMBERS OF THE CITY COUNCIL TO THE CITY COUNCIL APPOINTMENTS SUBCOMMITTEE, STANDING, AD HOC, AND OUTSIDE AGENCY COMMITTEES
Resolution - 2026 Mayor's Appointments - Appointments Subcommittee, Standing, Ad Hoc, and Outside Agencies

9. PRESENTATIONS

10. ADOPTION OF AGENDA

11. OPPORTUNITY FOR PUBLIC COMMENTS

How to Submit Public Comments for this City Council meeting:
Besides appearing in person and offering public comments, members of the public may provide public comment via Zoom, or to the City Clerk by email at lwolfe@ci.benicia.ca.us. Any comment submitted to the City Clerk should indicate which item of the agenda the comment relates to. Specific information follows:

- Comments received by 2:00 p.m. on the day of the meeting will be electronically forwarded to the City Council and posted on the City's website.

12. WRITTEN COMMENT

13. PUBLIC COMMENT

14. CONSENT CALENDAR

Items listed on the Consent Calendar are considered routine and will be enacted, approved or adopted by one motion unless a request for removal or explanation is received from a Council Member, Staff, or member of the public. Items removed from the Consent Calendar shall be considered immediately following the adoption of the Consent Calendar.

14.A MINUTES FROM THE DECEMBER 2, 2025 SPECIAL AND REGULAR MEETING
December 2, 2025 Special City Council Meeting Minutes
December 2, 2025 Regular City Council Meeting Minutes

14.B RATIFYING THE EMERGENCY PROCUREMENT DECLARATION FOR THE I-80/WATT COURT WATER LINE REPAIR AND APPROVING A BUDGET AMENDMENT

RECOMMENDED ACTION: Move to adopt a resolution (Attachment 1) ratifying the emergency procurement declaration for the I-80/Watt Court Water Line Repair and authorizing the Finance Director to make the necessary budget amendment.
Staff Report - Declaring Emergency Procurement
1. Resolution Declaring Emergency Procurement

14.C ADOPTION OF THE 2026 CITY COUNCIL REGULAR MEETING CALENDAR
Staff Report - City Council Regular Meeting Calendar - 2026
1. 2026 City Council Regular Meeting Calendar

14.D CERTIFICATION OF APPOINTMENT FOR CALPERS RETIRED ANNUITANT FOR EXCEPTION OF 180-DAY RULE UNDER GOVERNMENT CODE SECTIONS 7522.56 AND 21221(h)

RECOMMENDED ACTION: Adopt a resolution (Attachment 1) certifying the nature of the employment and appointment of Kimberly Imboden as a retired annuitant serving as Interim Human Resources Manager, effective January 1, 2026 (Exhibit A).

Staff Report - CalPERS 180 day Exception
1. Resolution - CalPERS 180 Day Wait Period Exception

14.E FY 2025/26 FIRST QUARTER INVESTMENT REPORT

RECOMMENDED ACTION: Move to accept, by minute action, the First Quarter Investment Report for the quarter that ended September 30, 2025 (Attachment 1).
Staff Report - FY 2025-26 First Quarter Investment
1. FY2025-26 First Quarter Investment Report
2. LAIF Statement
3. CAMP Statement
4. 115 Trust Statement

14.F ADOPTION OF THE ANNUAL AND FIVE-YEAR ASSEMBLY BILL 1600 REPORT

RECOMMENDED ACTION: Move to adopt a resolution (Attachment 1) adopting the AB 1600 Report (Exhibit A).
Staff Report - AB1600 Report
1. Resolution - Adoption of the AB1600 Report

14.G HOUSING ELEMENT IMPLEMENTATION AMENDMENTS

RECOMMENDED ACTION: Adopt the ordinance amending the Benicia Municipal Code (BMC) after a determination that the Project is exempt from the California Environmental Quality Act (CEQA).
Staff Report - Second Reading Housing Element Implementation Amendments
1. Proposed Ordinance Amending the Benicia Municipal Code

14.H APPROVAL TO WAIVE THE READING OF ALL ORDINANCES INTRODUCED OR ADOPTED PURSUANT TO THIS AGENDA

15. BUSINESS ITEMS

15.A DISCUSSION ITEM - PORT OF BENICIA FACILITIES AND INFRASTRUCTURE MODERNIZATION PLAN - STATUS UPDATE ON DELIVERABLE 1 (INFRASTRUCTURE ASSESSMENT) AND DELIVERABLE 2 (PORT DEMAND, CAPACITY, AND CIRCULATION/TRANSPORTATION ANALYSIS)

RECOMMENDED ACTION: Accept the status update on Deliverable 1 (Attachment 1) and Deliverable 2 (Attachment 2) for the Port of Benicia Facilities and Infrastructure Modernization Plan.
Staff Report - Port of Benicia Facilities and Infrastructure Modernization Plan Status Update
1. Port of Benicia Deliverable 1 - Infrastructure Assessment
2. Port of Benicia Deliverable 2 - Port Demand, Capacity and Circulation Transportation Analysis

15.B DISCUSSION ITEM - PRESENTATION OF VALERO REUSE SCAN

RECOMMENDED ACTION: This agenda item is informational and provides an

opportunity for discussion. No formal action is requested.
Staff Report - Valero Reuse Scan

15.C APPROVAL FOR USE OF AMPORTS, INC. SETTLEMENT FUNDS FOR SP DEPOT

RECOMMENDED ACTION: Move to adopt a resolution (attachment 1) approving the use of AMPORTS Settlement funds to pay for the construction of a deck in the amount not to exceed $45,000.
Staff Report - Approval of Use of Amports Settlement Funds for SP Depot
1. Resolution - Approval of Use of Amports Settlement Funds for SP Depot

16. CITY COUNCIL TASK FORCE GROUPS: ADVOCACY, COLLABORATION AND TRANSITION (ACT)

16.A AD HOC "ACT" TASK FORCE GROUPS UPDATES
Ad Hoc "ACT" Task Force Groups Updates

17. COUNCIL MEMBER COMMITTEE REPORTS
(Council Members serve on various internal and external committees on behalf of the City. Links to current agendas, minutes and meeting schedules, as available, from these various committees are included in the agenda packet. Oral reports by the Council Members are made only by exception.)

17.A COUNCIL MEMBER COMMITTEE REPORTS
Council Member Committee Reports

18. ADJOURNMENT (9:00 P.M.)

Public Participation

The City of Benicia welcomes your interest and involvement in the City's legislative process. Persons wishing to address the Council, Board, Commission or Committee (CBCC) are asked to voluntarily complete a speaker request form, available at the entrance of Council Chambers, and submit it to the meeting Secretary/City Clerk. Speakers, addressing the CBCC at the time the item is considered, are requested to restrict their comments to the item as it appears on the agenda and stay within the three-minute time limit. The Brown Act does not permit the CBCC to take action on items brought up during the Public Comment period.

As a courtesy, and technology permitting, members of the public may participate remotely. Please be advised that those participating in the meeting remotely via Zoom do so at their own risk. Meetings will not be cancelled due to technical difficulties. The meeting can also be observed on Cable T.V. Broadcast - Check with your cable provider for your local government broadcast channel, or livestream online at www.ci.benicia.ca.us/agendas.

Americans with Disabilities Acts

The City of Benicia is committed to providing meeting facilities that are accessible to persons with disabilities. Meeting materials in alternative formats, a sign language interpreter, real-time captioning, assistive listening devices or other accommodations can be requested by calling (707) 746-4200 or by emailing ADACoordinator@ci.benicia.ca.us, at least four working days prior to a meeting. Assistive listening devices may be obtained at the meeting.

Meeting Procedures

Pursuant to Government Code Section 65009, if you challenge a decision of the CBCC in court, you may be limited to the issues raised during the meeting or in written correspondence delivered to the CBCC by the meeting. You may also be limited to a ninety (90) day statute of limitations when challenging certain administrative decisions, including any final decisions regarding planning or zoning.

The decision of the CBCC is final as of the date of its decision unless judicial review is initiated pursuant to Code of Civil Procedure Section 1094.5. Any such petition for judicial review is subject to the provisions of Code of Civil Procedure Section 1094.6

Public Records and Writings Received After Agenda Posting

A printed version of the agenda packet for this meeting is available at the Benicia Public Library during regular working hours. To the extent feasible, the agenda packet and any writing or documents related to an agenda item for this meeting provided to the CBCC, will be made available for public inspection on the City's web page at www.ci.benicia.ca.us under the heading "Agendas and Minutes." A complete recording of each meeting is available online at www.ci.benicia.ca.us/agendas.

Contact Your Council Members

Voicemail for Mayor and Council Members: (707) 746-4213
Mayor Steve Young: SYoung@ci.benicia.ca.us
Vice Mayor Trevor Macenski: TMacenski@ci.benicia.ca.us
Council Member Kari Birdseye: KBirdseye@ci.benicia.ca.us
Council Member Lionel Largaespada: LLargaespada@ci.benicia.ca.us
Council Member Terry Scott: TScott@ci.benicia.ca.us



PUBLIC NOTICE

NOTICE IS HEREBY GIVEN that in compliance with the requirements of the Maddy Act, California Government Code Section 54970 et seq., the following appointment list is posted on December 31, 2025.

The list identifies the City of Benicia's Board, Commission, and Committee Members (Members) and the dates of their terms of office as of the time of this posting. Members must be residents of the City of Benicia.

Any citizen interested in serving on any City Board, Commission, or Committee (BCC) is encouraged to file an application with the City Manager's Office by filling out the application and supplemental application for the BCC of interest. Applications are available online from February 2, 2026, through March 20, 2026, or may be obtained from the City Manager's Office at City Hall at 250 East L Street. You may also request the application forms by calling the City Manager's Office at (707) 746-4200 or sending a request to Tracy Holman by email at tholman@ci.benicia.ca.us.

PLEASE NOTE: The names on this list are subject to change based on term expirations and resignations that occur during the year.

ARTS AND CULTURE COMMISSION

7 Members: 4-Year Terms

The Arts and Culture Commission's (Commission) purpose is to advise the City Council on arts and culture issues, evaluate the needs of local cultural organizations, and promote artistic activities within the community. Each Member of the Commission shall have a demonstrated interest in promoting and sustaining the arts and cultural community of poetry, literacy, performing arts, music, theater, dance, film, visual arts, and cultural events. At least one Member must be an artist or represent the visual arts community, and at least one must represent the cultural and/or performing arts community. Members cannot serve on other City BCCs or on the boards of outside arts or cultural organizations.

Meetings are held on the first Thursday of each month at 6:00 p.m. in the City of Benicia Council Chambers, 250 East L Street, Benicia, CA 94510.

COMMISSION MEMBER	APPOINTED	EXPIRATION DATE
Neema Hekmat	2/1/2022	7/31/2026
Greg L Wilson	8/1/2025	7/31/2026
Jeffrey Tover	1/7/2025	7/31/2028
Kiara Lopez-Giambastiani	8/1/2025	7/31/2029
Treva E Nervis	8/1/2025	7/31/2029
Elizabeth Lewis	8/1/2025	7/31/2029
Christopher L Dunlap	8/1/2025	7/31/2029

BOARD OF LIBRARY TRUSTEES

5 Members: 3-Year Terms

The Library Board of Trustees (Board) is responsible for making and enforcing rules, regulations and bylaws necessary for the administration, government and protection of the public library. Each Member shall be a qualified elector of the City. A person who holds any salaried public office or employment with the City is not eligible for the Board.

Meetings are held on the first Monday of each month at 6:00 p.m. in the City of Benicia Council Chambers, 250 East L Street, Benicia, CA 94510.

BOARD MEMBER	APPOINTED	EXPIRATION DATE
Todd Hickey	9/17/2024	7/31/2027
Ruth Workman	9/17/2024	7/31/2027
Lois C. Kazakoff	8/1/2025	7/31/2028
Carolyn L Cadloni	8/1/2025	7/31/2028
Linda Ordonio-Dixon	8/1/2025	7/31/2028

BUILDING BOARD OF APPEALS

3 Members: 4-Year Terms

The Building Board of Appeals (Board) primary duty is to hear appeals regarding the Uniform Code or California Code. Each Member of the Board shall be a qualified elector of the City and shall have the experience and training to judge matters pertaining to building construction.

The Building Board of Appeals meets as necessary at 6:30 p.m. in the City of Benicia Council Chambers, 250 East L Street, Benicia, CA 94510.

BOARD MEMBER	APPOINTED	EXPIRATION DATE
Brandon D Marshall	8/1/2023	7/31/2027
David DeLong	9/17/2024	7/31/2028
Melissa M Fimbres	8/1/2025	7/31/2029

COMMUNITY SERVICES COMMISSION

7 Members: 4-year Terms

The Community Services Commission (Commission) identifies and investigates quality-of-life needs and opportunities in the City and annually makes recommendations to the City Council regarding those needs and opportunities. To be eligible for appointment to the Commission, an individual shall have demonstrated interest in, and commitment to, furthering the quality-of-life aspects of the City of Benicia, including such things as recreation services and programs, senior services, family resources and human services needs.

Meetings are held on the second Wednesday of March, May, July, September, and November at 6:00 p.m. in the City of Benicia Council Chambers, 250 East L Street, Benicia, CA 94510.

COMMISSION MEMBER	APPOINTED	EXPIRATION DATE
Elizabeth B O'Brien	1/7/2025	7/31/2026
An Peterson	1/7/2025	7/31/2026
Teresa Allen-Piccolo	1/7/2025	7/31/2026
Robert Sachs	1/7/2025	7/31/2028
Andrew J Stewart	1/7/2025	7/31/2028
Margaret Kolk	1/7/2025	7/31/2028
Rachel L Bhagwat	1/7/2025	7/31/2028

COMMUNITY SUSTAINABILITY COMMISSION

7 Members: 4-Year Terms & 1 - 1-Year Student Term

The Community Sustainability Commission educates, advocates and provides oversight for integrated solutions that seek a sustainable equilibrium for economic, ecological, and social health and well-being, both now and in the future. Each Member shall have expertise and/or demonstrated interest in one or more of the following: water quality, water use efficiency and conservation; air quality; local and regional ecology; energy; mobility; land use/stewardship; green site planning and building; waste management; community and regional economics/finance; social justice; public relations; local based business management. One Member shall be a high school student with junior or senior standing who resides in Benicia.

Meetings are held on the third Monday of every other month at 4:00 p.m. in the City of Benicia Council Chambers, 250 East L Street, Benicia, CA 94510.

COMMISSION MEMBER	APPOINTED	EXPIRATION DATE
Anika Jadhav	8/1/2025	7/31/2026
Lindsay S Wray	8/1/2023	7/31/2027
Richard Fleming	8/1/2023	7/31/2027
Barbara Weaver Lloyd	8/1/2023	7/31/2027
Nandi J Loggins-Glover	1/7/2025	7/31/2027
Alicia Garcia-Romero	9/17/2024	7/31/2028
VACANT		7/31/2030

ECONOMIC DEVELOPMENT BOARD

7 Members: 4-Year Terms

The Economic Development Board serves to identify and investigate economic development needs and opportunities in Benicia and annually makes recommendations to the Council regarding those needs and opportunities on both a short and long-term basis. To be eligible for appointment an individual shall have demonstrated interest in and commitment to furthering the economic development of the City of Benicia. Appointments shall be made from citizens living in or owning, managing or operating economic entities in Benicia.

Meetings are held on the fourth Wednesday of January, March, May, July, September, and November at 5:30 p.m. in the City of Benicia Council Chambers, 250 East L Street, Benicia, CA 94510.

BOARD MEMBER	APPOINTED	EXPIRATION DATE
Penny Nichols-Stell	8/1/2022	7/31/2026
Christopher Kerz	8/1/2023	7/31/2027
Rachel Noble	8/1/2023	7/31/2027
Chad M Lum	9/17/2024	7/31/2028
Michael Bernico	8/1/2025	7/31/2029
VACANT		7/31/2028
VACANT		7/31/2029

HISTORIC PRESERVATION REVIEW COMMISSION

7 Members: 4-Year Terms

The Historic Preservation Review Commission identifies, registers, designates, preserves, protects, enhances and perpetuates those historic structures, districts and neighborhoods which contribute to the cultural and aesthetic heritage of Benicia. Each Member of the Historic Preservation Review Commission shall be a Benicia resident and have a demonstrated special interest, competence or knowledge of historic preservation. At least two Members shall be owners of a historic property within the Historic District. One of these Members shall be the owner of a residence in the Historic District. The other Member shall be the owner of either a residence or business property in the Historic District.

Meetings are held on the fourth Thursday of each month at 6:30 p.m. in the City of Benicia Council Chambers, 250 East L Street, Benicia, CA 94510.

COMMISSION MEMBER	APPOINTED	EXPIRATION DATE
Jon C Van Landschoot	8/1/2022	7/31/2026
Tim S Reynolds	9/17/2024	7/31/2028
Gilbert Von Studnitz	9/17/2024	7/31/2028
Chris Chwala	8/1/2025	7/31/2029
Kelley Hewson	8/1/2025	7/31/2029
VACANT		7/31/2030
VACANT		7/31/2030

HOUSING AUTHORITY BOARD

7 Members: 5 - 4-Year Terms and 2 - 2-Year Terms (Tenant Term)

The Housing Authority Board sets policy regarding the affordable housing programs administered by the Housing Authority, approves the Housing Authority's budgets, hires and supervises the Executive Director, and generally represents the interests of low-income and very low-income tenants in Benicia.

Meetings are held on the fourth Wednesday of each month at 6:30 p.m. at the Housing Authority Office, 28 Riverhill Drive, Benicia, CA 94510.

BOARD MEMBER	APPOINTED	EXPIRATION DATE
Abita Murphy	9/17/2024	7/31/2026
Misty E Bostater	9/17/2024	7/31/2026
Juliet M Marks	9/17/2024	7/31/2028
Lorri L Brinkerhoff	9/17/2024	7/31/2028
Raquel Walsh	9/17/2024	7/31/2028
Debra Thurin	8/1/2025	7/31/2029
Kendall Lara	8/1/2025	7/31/2029

INDUSTRIAL SAFETY CITIZEN OVERSIGHT COMMISSION

7 Members: 4-Year Terms

The Industrial Safety Citizen Oversight Commission (Commission) facilitates public access to public health and safety information in order to benefit community health and safety, obtain community input regarding industrial health and safety issues, develop recommendations and provide information to the public and the City Council regarding industrial public health and safety issues in Benicia. Each Member shall be a resident of, be employed in, or own a small business in Benicia. The foregoing notwithstanding, no less than four (4) Members of the Commission shall be residents of the City. Each Member shall have demonstrated special interest, competence, or knowledge of industrial safety and/or air quality.

Meetings are held quarterly at 4:00 p.m. in the City of Benicia Council Chambers, 250 East L Street, Benicia, CA 94510.

COMMISSION MEMBER	APPOINTED	EXPIRATION DATE
Bryan W. Robinson	8/1/2025	7/31/2026
Lars WJ Anderson	8/1/2025	7/31/2027
Brett S Nelson	8/1/2025	7/31/2027
Peter Ciriscioli	8/1/2025	7/31/2028
Daniel Matthew Fentress	8/1/2025	7/31/2028
Cooper E Minetti	8/1/2025	7/31/2029
David A. Lindsay	8/1/2025	7/31/2029

LOCAL TAX OVERSIGHT BOARD

7 Members: 4 - 4-year Appointments, 2 - City Council Members, 1 – City Treasurer

The Local Tax Oversight Board (Board) reviews, on a quarterly basis, the projected and actual receipts of tax proceeds from local use and transaction taxes, transient occupancy tax, and if applicable real property transfer tax. The Board shall consist of seven Members, consisting of the City Treasurer who shall serve as Chair, two Members of the City Council (appointed annually) and four at large Members. Members must have demonstrated interest in such things as finance, accounting, good governance, business administration, civic management and/or work in transparency and communications.

Meetings are held on the third Thursday, February, May, August and November at 10:00 a.m. in the City of Benicia Council Chambers, 250 East L Street, Benicia, CA 94510.

BOARD MEMBER	APPOINTED	EXPIRATION DATE
Michael Bernico	1/7/2025	7/31/2026
Terry Scott	1/7/2025	12/31/2025
Lionel Largaespada	1/7/2025	12/31/2025
Nicole R LaGandeur	1/7/2025	7/31/2028
Scott Wagner	1/7/2025	7/31/2028
Ken Paulk	10/30/2024	7/31/2028
VACANT		7/31/2030

OPEN GOVERNMENT COMMISSION

5 Members: 4-Year Terms

The Open Government Commission (OGC) shall run the candidate forum as required under BMC 1.42.120. All Members shall be without known conflicts of interest and shall be residents of the city to the extent possible. The OGC shall consist of five members of the public. All Members shall have a demonstrated interest in open and ethical government through such activities as, but not limited to, attendance at meetings of government bodies, requests for documents from government agencies, disseminating information about government to others, and familiarity with the Brown Act and/or Public Records Act. All Members shall be without known conflicts of interest and shall be residents of the City to the extent possible.

Meetings are held once a year on a Monday at 5:00 p.m. in the City of Benicia Council Chambers, 250 East L Street, Benicia, CA 94510.

COMMISSION MEMBER	APPOINTED	EXPIRATION DATE
Kelsey Bye	2/1/2022	7/31/2026
Nicholas Webb	5/3/2022	7/31/2026
Gregg Horton	8/1/2025	7/31/2028
VACANT		7/31/2030
VACANT		7/31/2029

PLANNING COMMISSION

7 Members: 4-Year Terms

The Planning Commission (PC) is responsible for enforcing duties, rights and powers imposed by State law and provided by ordinance or resolution of the City Council regarding planning issues. It is the intent of the Council to have the PC composed of people from all geographical, social, environmental, and economic sectors of the community. Each member shall be a Benicia resident and registered voter and shall be qualified by knowledge and experience to make decisions on questions of community growth and development. Members shall not be severely constrained with potential conflicts of interest under the Political Reform Act or the Benicia open government ordinance (BMC Title 4). (Ord. 08-05 § 1; Ord. 05-08 § 2; Ord. 1261 M.C. § 102, 1970. Formerly 2.52.020).

Meetings are held on the second Thursday of each month at 6:00 p.m. in the City of Benicia Council Chambers, 250 East L Street, Benicia, CA 94510.

COMMISSION MEMBER	APPOINTED	EXPIRATION DATE
Jarrod Slate	2/7/2022	7/31/2026
William Lyle	6/6/2023	7/31/2026
Brandon D Marshall	9/17/2024	7/31/2028
Christina M Gilpin-Hayes	9/17/2024	7/31/2028
Evan Gorman	9/17/2024	7/31/2028
Patrick Donaghue	8/1/2025	7/31/2029
Alan E Jessen	8/1/2025	7/31/2029

RESOLUTION NO. 25-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA CONFIRMING MAYOR'S APPOINTMENTS OF MEMBERS OF THE CITY COUNCIL TO THE CITY COUNCIL APPOINTMENTS SUBCOMMITTEE, STANDING, AD HOC, AND OUTSIDE AGENCY COMMITTEES

OUTSIDE AGENCY COMMITTEES - 2026 RECOMMENDATIONS					
ORGANIZATION	**PRIMARY**	**ALTERNATE**	**MEETING DATE/TIME/LOCATION**	**WHO CAN SERVE**	**TERM**
Association of Bay Area Governments (ABAG) Executive Board	Macenski	Young	3rd Thursday at 5:10 p.m. - Odd Months Bay Area Metro Center Board Room - 1st Fl. 375 Beale St., San Francisco	Mayor or Vice Mayor	1/1/2026-12/31/2026
ABAG General Assembly	Macenski		At least once a year	Council Members	1/1/2026-12/31/2026
Benicia-Tula Sister Cities Association (BTSCA)	Birdseye	Largaespada	Meet as needed	Council Members	1/1/2026-12/31/2026
City County Coordinating Council (4Cs)	Young	Scott	STA Office Building Board Chambers 423 Main Street, Suisun City	Mayor	No fixed term
Community Action Partnership Joint Powers Authority (CAP Solano)	Largaespada Macenski		4th Thursday Monthly County Events Center 601 Texas St., Fairfield	2 Appointed Council Members	1/1/2026-12/31/2026
Contra Costa Green Empowerment Zone (GEZ)	Birdseye	Young	3rd Friday at 9:30 a.m. – Odd Months 1025 Escobar St., Room 110, Martinez	Council Members	1/1/2026-12/31/2026
League of California (CalCities)	Birdseye	Young	Monthly plus events	Council Members	1/1/2026-12/31/2026
Marin Clean Energy (MCE)	Birdseye	Macenski	3rd Thursday Monthly at 6:30 p.m.	Council Members	1/1/2026-12/31/2026
Solano County Water Authority/ Solano County Water Agency (SCWA)	Young	Largaespada	2nd Thursday Monthly at 6:30 p.m. SCWA Office, Berryessa Room 810 Vaca Valley Pkwy. Ste. 202, Vacaville	Council Members	1/1/2026-12/31/2026
Solano Economic Development Corporation (EDC) Board of Directors	Largaespada Macenski		Less than monthly at 9:00 a.m. Solano County Office of Education 5100 Business Center Dr., Fairfield	2 Appointed Council Members	1/1/2026-12/31/2026
Solano Transportation Authority (STA)	Young	Scott	2nd Wednesday Monthly at 6:00 p.m. STA Office Building Board Chambers 423 Main Street, Suisun City	Council Members	1/1/2026-12/31/2026
SolTrans Public Advisory Committee (PAC)	Scott	Young	3rd Thursday Monthly at 4:00 p.m. Vallejo Council Chamber 555 Santa Clara St., Vallejo	Council Members	1/1/2026-12/31/2026
Tri-City & County Cooperative Planning Group (Solano Open Space)	Scott	Birdseye	Meet as Needed	Council Members	1/1/2026-12/31/2026
Valero Benicia Community Advisory Panel (Benicia Refinery CAP)	Scott		2nd Tuesday at 4:30 p.m. Even months 610 Industrial Way, Benicia	Council Members	1/1/2026-12/31/2026

CITY OF BENICIA INTERNAL COMMITTEES - 2026 RECOMMENDATIONS					
ORGANIZATION	**PRIMARY**	**MEETING DATE/TIME**	**TERM**	**WHO CAN SERVE**	**TERM**
City Council Appointments Subcommittee	Largaespada Macenski	Meet as needed	Appointed annually	2 Appointed Council Members	1/1/2026-12/31/2026
Local Tax Oversight Board	Largaespada Scott	Quarterly at 10:00 a.m.	Appointed annually	2 Appointed Council Members	1/1/2026-12/31/2026
Council Budget Subcommittee	Largaespada Macenski	Meet as needed	No fixed term	2 Appointed Council Members	Last appointment made 5/20/2025.

RESIDENT BASED COMMITTEES				
ORGANIZATION		**MEETING SCHEDULE**	**TERM LENGTH**	**CURRENT TERM**
Solano Commission for Women and Girls	Currently Serving: Gethseme Moss	3rd Thursday Monthly at 6:00 p.m. 601 Texas St., Fairfield	3 Years	5/1/2024-5/1/2027
STA Pedestrian Advisory Committee (PAC)	Currently Serving: Diane Dooley	1st Thursday Even Numbered Months at 6:00 PM 423 Main St., Suisun City	3 Years	12/31/2023-12/31/2026
STA Bicycle Advisory Committee (BAC)	Currently Serving: Nancy Lund	1st Thursday at 6:00 p.m. Jan., Mar., May, July, Sept., Nov 423 Main Street Suisun City	3 Years	2/2023-2/2026
SolTrans Public Advisory Committee (PAC)	Currently Serving: Ginger Burnett, Dan Smith and Rachel Bhagwat	Quarterly or as needed 555 Santa Clara St., Vallejo	2 Years	11/4/2025-12/31/2027
Mosquito Abatement Board	Currently Serving: Mike White	2nd Monday monthly at 4:30 PM 2950 Industrial Ct., Fairfield	4 Years	7/2024-7/2028
CAP Solano JPA Tripartite Advisory Board	Reappointment - Gethseme Moss	2nd Monday Odd Numbered Months 675 Texas St. Conf. Rm 1, Fairfield	3 Years	1/12/2025-1/12/2027

NOW, THEREFORE, BE IT RESOLVED THAT the City Council of the City of Benicia hereby confirms the Mayor's appointments of members of the City Council to the City Council Appointments Subcommittee, standing committees, ad hoc committees, and outside agency committees.

On motion of Council Member , seconded by Council Member , the above Resolution was adopted by the City Council of the City of Benicia at a regular meeting of said Council held on the 16th day of December 2025 by the following vote:

Ayes:

Noes:

Absent:

Abstain:

_____
Steve Young, Mayor

Attest:

_____
Lisa Wolfe, City Clerk

_____
Date

DRAFT

MINUTES OF THE
SPECIAL MEETING – CITY COUNCIL
DECEMBER 2, 2025
4:30 P.M.

City Council Chambers, City Hall, 250 East L Street, complete proceedings of which are recorded. These are action minutes; a full video is available online at www.ci.benicia.ca.us/agendas.

1) CALL SPECIAL MEETING TO ORDER

Mayor Young called the Special Meeting to order at 4:31 p.m.

2) CONVENE OPEN SESSION

3) ROLL CALL

All Council Members were present.

4) REFERENCE TO THE FUNDAMENTAL RIGHTS OF THE PUBLIC

5) PUBLIC COMMENT FOR CLOSED SESSION

None.

6) ADJOURN TO CLOSED SESSION

6.A CONFERENCE WITH REAL PROPERTY NEGOTIATORS
Property: (187 East L Street, Benicia, CA [APNs: Parcel 1 0088-113-010, 0088-113-020 and 0088-113- 030; Parcel 2 0088-141-060; and Parcel 3 0088-141-070] and East L Street and East 4th Street, Benicia, CA [APN 0088-124-130])
Agency negotiator: (City Manager)
Negotiating parties: (Eden Housing)
Under negotiation: (Price, terms of payment, or both)

6.B THREAT TO PUBLIC SERVICES OR FACILITIES-Government Code Section 54957 Consultation with: (George Passidakis, security consultant for Apex Technology Management and City Attorney)

Mayor Young adjourned the meeting to Closed Session at 4:31 p.m.

7) RECONVENE OPEN SESSION

Mayor Young reconvened the Open Session at 6:05 p.m.

8) ANNOUNCEMENTS FROM CLOSED SESSION, IF ANY

Mary Wagner, Assistant City Attorney, reported that Council met in Closed Session on two items and took no reportable actions.

9) ADJOURNMENT

Mayor Young adjourned the Special Meeting at 6:05 p.m.

_____
City Clerk

DRAFT

MINUTES OF THE
REGULAR MEETING – CITY COUNCIL
DECEMBER 2, 2025
6:00 P.M.

City Council Chambers, City Hall, 250 East L Street, complete proceedings of which are recorded on tape. These are action minutes; a full video is available online at www.ci.benicia.ca.us/agendas.

COURTESY ZOOM PARTICIPATION

1) CALL TO ORDER (6:00 P.M.)

Mayor Young called the Regular Meeting to order at 6:05 p.m.

2) CONVENE OPEN SESSION

3) ROLL CALL

All Council Members were present.

4) PLEDGE OF ALLEGIANCE

5) REFERENCE TO THE FUNDAMENTAL RIGHTS OF THE PUBLIC

6) ANNOUNCEMENTS

6.A MAYOR'S OFFICE HOURS

7) PROCLAMATIONS

8) APPOINTMENTS

9) PRESENTATIONS

9.A COMMUNITY SUSTAINABILITY COMMISSION ANNUAL WORK PLAN

10) ADOPTION OF AGENDA

Mario Giuliani, City Manager, stated that Staff requested Item 14.B be continued to later date.

On motion of Vice Mayor Macenski, seconded by Council Member Birdseye, Council approved the Adoption of the Agenda, as amended, on a roll call by the following vote:

Ayes: Council Member Birdseye, Council Member Largaespada, Vice Mayor Macenski, Council Member Scott, Mayor Young
Noes: (None)

11) OPPORTUNITY FOR PUBLIC COMMENTS

12) WRITTEN COMMENT

13) PUBLIC COMMENT

1. Mark Williams - Mr. Williams discussed the Environmental Justice League's involvement in the issue of air quality control.
2. Yvonne Ishman - Ms. Ishman is a member of the Environmental Justice League. She discussed the impact the poor air quality has had on senior citizens.
3. Tina Flores - Ms. Flores discussed the Environmental Justice League's involvement in air quality control and chemical sensitivities.
4. Andre Stewart - Mr. Stewart discussed a recent event at the Senior Center held by the Benicia Community Services Commission.
5. Marilyn Bardet - Ms. Bardet discussed the need for a council appointed citizen task force to deal with the Valero closure and cleanup.
6. Camika Robinson - Ms. Robinson discussed the Environmental Justice League's involvement in the issue of air quality and the health of the citizens.
7. Citizen - the citizen discussed concern regarding poor air quality and the effect it has had on his family.
8. Stephen Golub - Mr. Golub discussed the issue of air quality, Valero leaving, the BAAQMD settlement funds, and the need to keep the public informed.

14) CONSENT CALENDAR

14.B APPROVAL OF AUTHORIZATION TO SOLANO TRANSPORTATION AUTHORITY TO ALLOCATE TRANSPORTATION DEVELOPMENT ACT FUNDS FOR FY 25/26 FOR CITY OF BENICIA LYFT PROGRAM

Staff Report - STA Allocation of TDA Funds for Lyft Program

This item was continued to a future meeting.

1. Resolution - STA Allocation of TDA Funds for Lyft Program
2. Lyft Program Budget
3. Lyft Ridership Program Data

14.A MINUTES FROM THE NOVEMBER 18, 2025 SPECIAL AND REGULAR MEETINGS

November 18, 2025 Special Meeting Minutes
November 18, 2025 Regular City Council Meeting Minutes

14.C APPROVAL TO WAIVE THE READING OF ALL ORDINANCES INTRODUCED OR ADOPTED PURSUANT TO THIS AGENDA

On motion of Vice Mayor Macenski, seconded by Council Member Birdseye, Council approved the adoption of the Consent Calendar, as amended (continuing Item 14.B), on a roll call by the following vote:

Ayes: Council Member Birdseye, Council Member Largaespada, Vice Mayor Macenski, Council Member Scott, Mayor Young
Noes: (None)

15) BUSINESS ITEMS

15.A FY 2025/26 FIRST QUARTER BUDGET REPORT

Roxanna Moradi, Budget Manager, reviewed the staff report and a PowerPoint presentation.

Public Comment:

1. Lori Grundman - Ms. Grundman asked for clarification on the report.

Council received the FY 2025/26 First Quarter Budget Report by minute order.

Staff Report - FY26 Q1 Budget Report

15.B PUBLIC HEARING ON INDUSTRIAL SAFETY ORDINANCE FEE SCHEDULE

RESOLUTION NO. 25- 132 - A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA APPROVING THE INDUSTRIAL SAFETY ORDINANCE FEE SCHEDULE

Josh Chadwick, Fire Chief, reviewed the staff report.

Council and Staff discussed the issue of cost recovery, the CalARP (California Accidental Release Program) fees.

Public Comment:

1. Terry Mollica - Mr. Mollica spoke in opposition to the proposed fee schedule and recommended a fee structure that is 100% cost recovery.

2. Lori Grundman - Ms. Grundman spoke in opposition to using grant funds to pay the facilities' fees.
3. Dan Smith - Mr. Smith discussed concern regarding BAAQMD paying any funds to support the City's ISO.
4. Marilyn Bardet - Ms. Bardet discussed concern regarding BAAQMD paying any funds to support the City's ISO. The ISO should be self-funded.
5. Stephen Golub - Mr. Golub strongly agreed with the previous speakers regarding using BAAQMD settlement funds to support the ISO, as ISO is supposed to be budget neutral.

Council discussed the issue of 100% fee recovery, the BAAQMD Settlement funds, how/why Council landed on 50% fee recovery when this was initially discussed, and concern regarding training costs.

Staff Report - Industrial Safety Ordinance Fee Study
1. Resolution - Approve Industrial Safety Ordinance Fee Schedule
2. Industrial Safety Ordinance Fee Study

On motion of Council Member Scott, seconded by Council Member Birdseye, Council approved, the adoption of Resolution 25-132, as presented, on a roll call by the following vote:

Ayes: Council Member Birdseye, Vice Mayor Macenski, Council Member Scott, Mayor Young
Noes: Council Member Largaespada

15.C HOUSING ELEMENT IMPLEMENTATION AMENDMENTS

ORDINANCE NO. 25- - AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BENICIA AMENDING TITLE 16 (SUBDIVISIONS) AND TITLE 17 (ZONING) OF THE BENICIA MUNICIPAL CODE TO IMPLEMENT THE GENERAL PLAN HOUSING ELEMENT

RESOLUTION NO. 25- 133 - A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA AMENDING CHAPTER 4 (FORM BASED CODE) OF THE DOWNTOWN MIXED USE MASTER PLAN TO IMPLEMENT THE GENERAL PLAN HOUSING ELEMENT

Mayor Young recused himself from discussion on this item due to a conflict of interest.

Jason Hade, Planning Manager, and Ben Noble, Consultant, reviewed the staff report and a PowerPoint presentation.

Council and Staff discussed the proposed changes.

Public Comment:
None

Staff Report - Housing Element Implementation Amendments
1. Draft Ordinance Amending the Benicia Municipal Code.pdf
2. Draft Resolution amending the Downtown Mixed Use Master Plan.pdf
3. Planning Commission Staff Report (without attachments), November 13, 2025
4. Planning Commission Resolution No. 25-4 with Exhibits A and B
5. Draft Planning Commission Meeting Minutes, November 13, 2025
6. Redline version of Proposed Chapter 17.90 (Housing)

On motion of Council Member Birdseye, seconded by Council Member Scott, Council approved, approved the Introduction and First Reading of the above ordinance, as presented, and approved the adoption of Resolution 25-133, as presented, on a roll call by the following vote:

Ayes: Council Member Birdseye, Council Member Largaespada, Vice Mayor Macenski, Council Member Scott
Noes: (None)
Abstain: Mayor Young

15.D APPROACH TO DISPOSITION OF CITY-OWNED SITES FOR HOUSING DEVELOPMENT IN 2026

Staff Report - SLA

Suzanne Thorsen, Assistant City Manager, Development Services Director, reviewed the staff report and a PowerPoint presentation.

Mayor Young recused himself due to a potential conflict of interest.

Public Comment:
None

Council and Staff discussed Staff's recommendations and the East E Street Lot. Council consensus approved of Staff's recommendations.

1. Site Exhibits - Housing Element Excerpt
2. Housing Element Program 1.16 - Housing Element Excerpt

16) ADJOURNMENT (9:00 P.M.)

Vice Mayor Macenski adjourned the meeting at 9:01 p.m.

City Clerk

AGENDA ITEM
CITY COUNCIL MEETING DATE – DECEMBER 16, 2025
CONSENT ITEM

TO : City Manager

FROM : Public Works Director

SUBJECT : **RATIFYING THE EMERGENCY PROCUREMENT DECLARATION FOR THE I-80/WATT COURT WATER LINE REPAIR AND APPROVING A BUDGET AMENDMENT**

EXECUTIVE SUMMARY:
City Council is requested to ratify an emergency procurement declaration at their December 16, 2025 meeting, due to the emergency repairs needed on a water line break under Interstate 80 (I-80) near Watt Court in Fairfield. This allows staff to utilize emergency contracting procedures and expenditures pursuant to Benicia Municipal Code Section 3.09.050.C and Public Contract Code Section 22050(b)(1) based on the persistence of emergency conditions.

RECOMMENDATION:
Move to adopt a resolution (Attachment 1) ratifying the emergency procurement declaration for the I-80/Watt Court Water Line Repair and authorizing the Finance Director to make the necessary budget amendment.

BUDGET INFORMATION:
A budget amendment, in the amount of $960,000, is needed from the Water Fund balance to Account No. 7508021-7087 Project #822001 (Water Distribution – Preventative Maintenance) to cover the cost of this emergency work. The contract with Weber General Engineering is for $800,000 with a 20% contingency for a not-to-exceed total of $960,000.

BACKGROUND:
On October 7, 2025, a water leak was confirmed exiting the protective pipe casing that contains the City's 24-inch raw water line under I-80. This line supplies raw water from the Putah South Canal (PSC) pump station to Benicia. The PSC line is one of the City's two primary raw water sources. The second raw water source comes from the State's North Bay Aqueduct (NBA) water pump station located in Fairfield. The State has scheduled their annual maintenance for the NBA pump station for Feb/March 2026. The annual maintenance requires shutting down the NBA pump station for three to four weeks, barring any unforeseen mechanical or electrical maintenance issues. If the repairs to the PSC line are not completed prior to the NBA shutdown, the City would be reliant on Lake Herman as its only source of water, which has limited supply.

Staff engaged the services of Stantec, one of the City's on-call engineering firms, to assess the PSC pipeline and submit an alternatives analysis that identified the most reasonable repair solution. Given the urgency of the situation, it was determined that emergency repairs to the 24-inch raw water line is necessary to ensure continued access to water for the community. In accordance with Benicia Municipal Code Section 3.09.050, Public Works took immediate action by entering into a contract with Weber General Engineering, Inc. to assist with evaluating the constructability of the alternatives and perform the emergency repairs, bypassing the standard competitive bidding process due to the urgent nature of the work.

Proceeding with competitive bidding under the Public Contract Code at this time would result in delays that present a serious risk of the City being without water in the immediate future. Accordingly, emergency procurement is fully justified. The City solicited and received three Statement of Qualifications, which were comparable, and selected the contractor with prior experience working on this line.

In compliance with Section 3.09.050.C, we are now presenting this matter to the City Council for ratification of the emergency declaration and the actions taken.

NEXT STEPS:
The City will continue to work with contractors to repair the raw water line under I-80 in Fairfield.

ALTERNATIVE ACTIONS:
If Council does not ratify the emergency procurement or approve the budget amendment, the City will be out of compliance with the purchasing and budget control policy.

CEQA Analysis	Pursuant to Title 14, the California Code of Regulations, Section 15378(b)(5) of the California Environmental Quality Act ("CEQA") guidelines, the proposed action is an administrative activity of the City that will not result in direct or indirect physical changes to the environment.

ATTACHMENT:
1. Resolution – Ratification of Emergency Procurement

For more information contact: Danielle Bonham, Public Works Director
Phone: 707-746-4200
E-mail: dbonham@ci.benicia.ca.us

RESOLUTION NO. 25 –

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA RATIFYING THE EMERGENCY PROCUREMENT DECLARATION FOR THE I-80/WATT COURT WATER LINE REPAIR AUTHORIZING A BUDGET AMENDMENT AND AUTHORIZING THE CITY MANAGER TO EXECUTE THE AMENDMENT ON BEHALF OF THE CITY

WHEREAS, on October 7, 2025, a water line break was confirmed exiting the protective pipe casing that contains the City's 24-inch raw water line under Interstate 80; and

WHEREAS, without prompt repair, the City would have lost access to one of its two primary water sources. The other water source will be shut down for three to four weeks. If the repairs to the PSC line are not completed prior to the NBA shutdown, the City would be reliant on Lake Herman as its only source of water, which has limited supply; and

WHEREAS, in accordance with Benicia Municipal Code Section 3.09.050.C and Public Contract Code Section 22050(b)(1), Public Works took immediate action by entering into a contract with Weber General Engineering, Inc. to perform the emergency repairs, bypassing the standard competitive bidding process due to the urgent nature of the work; and

WHEREAS, in compliance with Section 3.09.050.C, City staff is now presenting this matter to the City Council for ratification of the emergency declaration and the actions taken; and

WHEREAS, the repairs are currently underway, and this item will be brought back to City Council when the work is complete to terminate the declaration of emergency procurement; and

WHEREAS, a budget amendment in the amount of $960,000 is necessary to increase expense appropriations in Account No. 7508021-7087 Project #822001 (Water Distribution – Preventative Maintenance) to cover the cost of this emergency work to be funded by Water fund balance.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Benicia hereby finds:

1. Proceeding with competitive bidding under the Public Contract Code at this time would result in delays that present a serious risk of the City being without water in the immediate future. Accordingly, emergency procurement is fully justified. The City solicited and received three Statement of Qualifications, which were comparable, and selected the contractor with prior experience working on this line.

2. In accordance with Benicia Municipal Code Section 3.09.050, Public Works took immediate action by entering into a contract with Weber General Engineering, Inc. to assist with evaluating the constructability of the alternatives and perform the emergency repairs, bypassing the standard competitive bidding process due to the urgent nature of the work.

3. Proceeding with competitive bidding under the Public Contract Code at this time would cause delays that pose a significant risk of the City being without water in the immediate future. Therefore, emergency procurement is substantially justified.

4. In compliance with Section 3.09.050.C, City staff is now presenting this matter to the City Council for ratification of the emergency declaration and the actions taken.

BE IT FURTHER RESOLVED THAT a budget amendment, in the amount of $960,000, is approved to be funded by Water Fund Reserves to Account No. 7508021-7087 Project #822001 (Water Distribution – Preventative Maintenance) to cover Project costs.

* * * * *

On motion of Council Member, seconded by Council Member , the above resolution was introduced and passed by the Council of the City of Benicia at a regular meeting of said Council held on the 16th day of December 2025 and adopted by the following vote:

Ayes:

Noes:

Absent:

Abstain:

_____
Steve Young, Mayor

Attest:

_____
Lisa Wolfe, City Clerk

_____
Date

AGENDA ITEM
CITY COUNCIL MEETING DATE – DECEMBER 16, 2025
CONSENT CALENDAR

TO : City Council

FROM : City Manager

SUBJECT : **ADOPTION OF THE 2026 CITY COUNCIL REGULAR MEETING CALENDAR**

EXECUTIVE SUMMARY:
The Open Government Ordinance (Section 4.08.040 of Ordinance No. 05-6) (Ordinance) states that each body established by ordinance shall establish, and publish, an annual schedule of regular meetings. The proposed schedule of regular meetings of the City Council for 2026 (Calendar) follows (Attachment 1) for Council review and approval.

RECOMMENDATION:
Move to adopt, by motion, the 2026 City Council Regular Meeting Calendar.

BUDGET INFORMATION:
There is no budget impact associated with adopting the Calendar.

BACKGROUND:
It is recommended that the first meeting in October be canceled. This allows for Council and staff to participate in National Night Out, which is held on the first Tuesday of October annually in Solano County, and to make vacation plans accordingly, if they wish.

ALTERNATIVE ACTIONS:
None

CEQA Analysis	Adoption of the calendar is not subject to the California Environmental Quality Act under Guidelines Section 15378 (b) (5) because organizational or administrative activities of governments that will not result in a direct or indirect physical change in the environment is not a project.

ATTACHMENT:
1. 2026 City Council Regular Meeting Calendar

For more information contact: Mario Giuliani, City Manager
Phone: 707-746-4200
E-mail: mgiuliani@ci.benicia.ca.us

2026 City Council Regular Meeting Calendar

The regular meetings of the City Council are held on the first, third and fourth Tuesdays of each month. Regular meetings start at 6:00 p.m. The fourth Tuesday meeting is reserved for workshops, study sessions, or closed sessions to the extent possible and will be canceled if not required. This schedule does not include special City Council meetings.

Meetings are held in the Council Chambers at City Hall and via Zoom.

For more information on upcoming special meetings, please visit the City's website at www.benicia.ca.us or contact the City Manager's office at (707) 746-4200.

January
- January 6
- January 20
- January 27

February
- February 3
- February 17
- February 24

March
- March 3
- March 17
- March 24

April
- April 7
- April 21
- April 28

May
- May 5
- May 19
- May 26

June
- June 2
- June 16
- June 23

July
- July 7
- July 21
- July 28

August
- August 4
- August 18
- August 25

September
- September 1
- September 15
- September 22

October
- October 6 (National Night Out)
- October 20
- October 27

November
- November 3
- November 17
- November 24

December
- December 1
- December 15
- December 22

AGENDA ITEM
CITY COUNCIL MEETING DATE – DECEMBER 16, 2025
CONSENT CALENDAR

TO : City Council

FROM : City Manager

SUBJECT : **CERTIFICATION OF APPOINTMENT FOR CALPERS RETIRED ANNUITANT FOR EXCEPTION OF 180-DAY RULE UNDER GOVERNMENT CODE SECTIONS 7522.56 AND 21221(h)**

EXECUTIVE SUMMARY:
Kimberly Imboden, Human Resources Manager, has recently announced her plan to retire on December 31, 2025, and has agreed to serve in a temporary, interim, role during the recruitment period for her replacement. Under Government Code Sections 7522.56 and 21221(h), the City is permitted to utilize this temporary assistance. Normally a retired person cannot be employed by a CalPERS agency for a period of 180 days after retirement. These statues, however, provide an exception to the 180-day wait period when the agency certifies the nature of the employment, that the appointment is necessary to fill a critically needed role before 180 days have passed, and the appointment has been approved by the agency's government body.

RECOMMENDATION:
Adopt a resolution (Attachment 1) certifying the nature of the employment and appointment of Kimberly Imboden as a retired annuitant serving as Interim Human Resources Manager, effective January 1, 2026 (Exhibit A).

BUDGET INFORMATION:
There is no additional budget impact associated with this action. Funding for this action is derived from salary savings generated from the vacancy of the full-time position.

BACKGROUND:
Kimberly Imboden will retire on December 31, 2025, following more than 22 years of service with the City of Benicia. In January 2026, the City will begin the review and recruitment to fill the vacancy created by the retirement of Kimberly Imboden, Human Resources Manager. The recruitment and placement are expected to take at least four to six months. Given the current financial challenges the City is facing, and current discussions about overall staffing, it may be difficult to fill this position. The recruitment process also includes multiple, legally required background processes before the candidate selected can start working with the City. The position of Human Resources Manager is vital to the organization, now so more than ever. The city will be entering into negotiations with all bargaining groups in early 2026, and human resources

leadership is critical in this process. With Imboden's December retirement date, this leaves little time to hire and bring her replacement up to speed on all the critical endeavors we have going on in the City, including upcoming labor negotiations. Imboden's history and knowledge of important aspects of the Human Resources Department are critical during the transition. Imboden has agreed to serve in an Interim role during the recruitment process for her replacement. The proposed resolution will allow Imboden to work temporarily in conformance with state law.

To employ Kimberly Imboden as a retired annuitant during this transition, it is necessary to certify the nature of the employment and appointment of Kimberly Imboden as a retired annuitant with CalPERS. Because of Imboden's familiarity with the various labor agreements and current personnel items in progress, her assistance during the staffing transition is critical to the continued success of this function within the Human Resources Department. Her work on the transition cannot be delayed for 180 days after her retirement, and it is recommended the Council adopt the proposed resolution. With the approval of the proposed resolution, as of January 1, 2026, Kimberly Imboden will be able to serve in an Interim position with the City of Benicia, consistent with the requirements of PERL, Government Code Sections 7522.56 and 21221(h).

It is anticipated that Imboden will serve in this capacity for approximately six months during the recruitment process for the permanent replacement. Salary compensation paid to retirees cannot be less than the minimum nor exceed the maximum rate of pay for the position. The maximum monthly base salary for this position is $14,985.05 and the hourly equivalent is $86.46. The minimum monthly base salary for this position is $12,328.24 and the hourly equivalent is $71.13. The hourly rate paid to Imboden will be $86.46. The hourly rate of $86.46 is well below the average hourly rate for a consultant at this level, which averages $130.00 - $150.00 per hour.

NEXT STEPS:
If the Council approves the recommended actions, staff will take the administrative steps necessary to implement the action.

ALTERNATIVE ACTIONS:
If Council doesn't approve, human resources functions will become backlogged until a new employee can be hired into this position.

CEQA Analysis	The requested action is exempt from CEQA because it will not result in a direct or indirect physical change in the environment and therefore it is not a project as defined in CEQA Guidelines Section 15378.

ATTACHMENT:
1. Resolution – CalPERS Retired Annuitant 180-Day Exemption
   Exhibit A – Personnel Action Form

For more information contact: City Manager Mario Giuliani
Phone: (707) 746-4200
E-mail: mgiuliani@ci.benicia.ca.us

RESOLUTION NO. 25-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA CERTIFYING THE NATURE OF THE EMPLOYMENT AND APPOINTMENT OF KIMBERLY IMBODEN AS A RETIRED ANNUITANT SERVING AS INTERIM HUMAN RESOURCES MANAGER, EFFECTIVE JANUARY 1, 2026

WHEREAS, in compliance with Government (Gov.) Code section 7522.56 of the Public Employees' Retirement Law, the governing body (City Council of the City of Benicia) must provide CalPERS this certification resolution; and

WHEREAS, when hiring a retiree before 180 days has passed since their retirement date; and

WHEREAS, Kimberly Imboden, CalPERS ID 3985458045 is retiring from the City of Benicia in the position of Human Resources Manager, effective December 31, 2025; and

WHEREAS, Gov. Code section 7522.56 requires that post-retirement employment commence no earlier than 180 days after the retirement date, which is June 29, 2026, without this certification resolution; and

WHEREAS, Gov. Code section 7522.56 provides that this exception to the 180-day wait period shall not apply if the retiree accepts any retirement-related incentive; and

WHEREAS, the City Council, the City of Benicia and Kimberly Imboden certify that Imboden has not and will not receive a Golden Handshake or any other retirement-related incentive; and

WHEREAS, an appointment under Gov. Code section 21221(h) requires the retiree is appointed into the interim appointment during recruitment for a permanent appointment; and

WHEREAS, the governing body has authorized the search for a permanent appointment on to begin on January 1st, 2026; and

WHEREAS, the City Council of the City of Benicia hereby appoints Kimberly Imboden as an interim appointment retired annuitant to the vacant position of Human Resources Manager for the City of Benicia under Gov. Code section 21221(h), effective January 1st, 2026 (Exhibit A); and

WHEREAS, this Gov. Code section 21221(h) appointment shall only be made once and therefore will end upon filling the vacancy of Human Resources Manager; and

WHEREAS, the entire employment agreement, contract or appointment document between Kimberly Imboden and the City of Benicia has been reviewed by this body and is attached herein; and

WHEREAS, the employment shall be limited to 960 hours per fiscal year for all CalPERS employers; and

WHEREAS, the compensation paid to retirees cannot be less than the minimum nor exceed the maximum monthly base salary paid to other employees performing comparable duties, divided by 173.333 to equal the hourly rate; and

WHEREAS, the maximum base salary for this position is $14,985.05 and the hourly equivalent is $86.46, and the minimum base salary for this position is $12,328.24 and the hourly equivalent is $71.13; and

WHEREAS, the hourly rate paid to Kimberly Imboden will be $86.46; and

WHEREAS, Kimberly Imboden has not and will not receive any other benefit, incentive, compensation in lieu of benefit or other form of compensation in addition to this hourly pay rate.

NOW, THEREFORE, BE IT RESOLVED THAT the City Council of the City of Benicia does hereby certify the nature of the employment of Kimberly Imboden as described herein and detailed in the attached employment appointment document and that this appointment is necessary to fill the critically needed position of Human Resources Manager for the City of Benicia by January 1st, 2026 because of the critical and time sensitive duties performed by the Human Resources Manager including recruitment, worker's compensation, labor and employer relations, and confidential personnel matters such as employee investigations.

*****

On motion of Council Member , seconded by Council Member , the above Resolution was adopted by the City Council of the City of Benicia at a regular meeting of said Council held on the 16th day of December 2025 by the following vote:

Ayes:

Noes:

Absent:

Abstain:

_____
Steve Young, Mayor

Attest:

_____
Lisa Wolfe, City Clerk

_____
Date

Exhibit A
Personnel Action Form
[see next page]

AGENDA ITEM
CITY COUNCIL MEETING DATE – DECEMBER 16, 2025
CONSENT CALENDAR

TO : City Manager

FROM : Finance Director

SUBJECT : **FY 2025/26 FIRST QUARTER INVESTMENT REPORT**

EXECUTIVE SUMMARY:
The Fiscal Year 2025/26 First Quarter Investment Report for the quarter that ended September 30, 2025, follows the City's Investment Policy and California Law. Additionally, the City has adequate investments to meet its expenditure needs for the next six months. This report has been reviewed by the City Treasurer.

RECOMMENDATION:
Move to accept, by minute action, the First Quarter Investment Report for the quarter that ended September 30, 2025 (Attachment 1).

BUDGET INFORMATION:
Staff time to prepare the report is included in the adopted FY 2025/26 General Fund budget. The interest earnings and market value of the City's portfolio have been reported in the appropriate fiscal year's budget.

BACKGROUND:
The First Quarter Investment Report for the quarter that ended September 30, 2025, has been completed. The market value of the City's all funds managed investment portfolio as of September 30, 2025, was $34,280,894.30. The portfolio's performance includes interest earnings and changes in market value, resulting in a total return rate of 1.30%. The quarterly returns were above the portfolio benchmark of 1.15%. Returns for the 1-year period were 4.38%, outperforming the portfolio benchmark return of 3.91% by 0.47% after fees.

The Federal Reserve lowered its target federal funds interest rate twice in 2025: a 25 basis point cut in September, followed by another 25 basis point cut in October. The rate was lowered to a range of 3.75% to 4.0%. Fed Chair Powell said a further rate cut in December is not a "foregone decision" and acknowledged voices calling for the Fed to "at least wait a cycle" before reducing rates further. Ultimately, a weak jobs report alongside a sluggish housing market report both prompted the Fed's rate cut response.

The City has adequate investments to meet its expenditure requirements for the next six months. In addition, the City's investment portfolio follows Government Code Sections 53600 et seq. and the City's Investment Policy.

The attached First Quarter Investment Report identifies, but is not limited to, the City's investments by purchase date, maturity date, type of investment, issuer of investment, cost, current yield, and yield to maturity.

LOCAL GOVERNMENT INVESTMENT POOLS

The City participates in two investment pools, the Local Agency Investment Fund (LAIF) and California Asset Management Trust (CAMP). Both LAIF and CAMP are compliant with California Government Code section 6509.7 and section 53601.

LAIF is a voluntary program created by statute in 1977, through the State Treasurer, in which local agencies can participate in the State's investment portfolio to achieve the benefit of the size of the State's investments and portfolio managers. The City's LAIF balance ending September 30, 2025, was $8,398,796.45 with an interest rate of 4.34% during the quarter (Attachment 2).

CAMP was created in 1989, when two public agencies formed the California Asset Management Trust, with the objective of meeting local government investment needs at a reasonable cost. The City became a shareholder in CAMP in November 2022. The cash reserve portfolio that the City participates in is a short-term portfolio which, in order of priority, seeks to preserve principal, provide daily liquidity and earn a high level of income. The City's CAMP balance, ending September 30, 2025, totals $69,838,667.97 (Attachment 3) with an investment yield of 4.36% on Pool balance of $49,838,667.97 and an investment yield of 4.11% on a $20,000,000 259-day Term investment maturing on 5/19/26.

As a reminder, these are cash investments of reserves/current operating cash from all funds, including Water and Wastewater, and are a snapshot in time as the cash balances are used throughout the year to cash flow city operations including debt obligations. The investment balances are not additional funding that can be used for budgeting purposes, but rather the cash behind the budget decisions made throughout the fiscal year.

IRS SECTION 115 PENSION TRUST:

On June 6, 2019, Council adopted Resolution 2019-48 authorizing the City Manager to establish an IRS Section 115 irrevocable pension trust fund with Public Agency Retirement Services (PARS) to administer a Public Agencies Post-Employment Benefits Trust as a pension rate stabilizing fund to pre-fund pension benefit obligations. The value of the Trust for the quarter ending September 30, 2025, is $9,029,994.53 (Attachment 4). The portfolio return during the quarter was 4.41%, and the 1-year return is 8.88%.

NEXT STEPS:

None.

ALTERNATIVE ACTIONS:
If Council chooses not to accept the First Quarter Investment Report, the City will be out of compliance with the City's Investment Policy.

CEQA Analysis	The Investment Report is exempt from the California Environmental Quality Act (CEQA) Guidelines Section 15061(b)(3), the "general rule" exemption which states that where it can be seen with certainty that there is no possibility the activity in question may have a significant effect on the environment, the activity is exempt from CEQA.

ATTACHMENT(S):

1. FY 2025-26 First Quarter Investment Report
2. LAIF Statement Ending September 30, 2025
3. CAMP Statement Ending September 30, 2025
4. 115 Trust Statement Ending September 30, 2025

For more information contact: Jeff Tschudi, Finance Director
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E-mail: jtschudi@ci.benicia.ca.us

pfm asset management

CITY OF BENICIA

Investment Performance Review
For the Quarter Ended September 30, 2025

Client Management Team

Monique Spyke, Managing Director
Justin Resuello, Institutional Sales & Relationship Manager

PFM Asset Management
A division of U.S. Bancorp Asset Management, Inc

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Agenda

- Market Update
- Portfolio Review

Market Update

Current Market Themes



- U.S. economy has been resilient but a cooling labor market presents risk
  - Net new job creation neared zero as employers follow a “no hire, no fire” approach
  - Inflation accelerated but Fed expects further price pressures to be short-lived
  - Uncertainty eased as tariff and fiscal announcements were digested



- Fed cut rates for the first time in 2025
  - Fed Chair Powell acknowledged the difficulty in balancing the risks affecting labor markets and inflation, but noted risks to the labor market were the Fed's focus
  - The Fed’s September “dot plot” signals 50 bps in additional cuts for 2025, though views remain split, with 7 members favoring no additional cuts in 2025



- Treasury yields moved lower across the curve in Q3
  - Front end Treasury yields moved lower on Fed rate cut expectations
  - Yields settled into a narrow trading range as market volatility eased
  - Credit spreads continued to tighten and neared historically narrow levels

Source: Details on market themes and economic indicators provided throughout the body of the presentation. Bloomberg Finance L.P., as of September 30, 2025.

Economic Growth Rebounds Amid Sticky Inflation

Fed Chair Powell: "While the unemployment rate remains low, it has edged up, job gains have slowed, and downside risks to employment have risen. At the same time, inflation has risen recently and remains somewhat elevated. Recent indicators suggest that growth of economic activity has moderated."

	2023												2024												2025							
CPI YoY	6.4	6.0	5.0	4.9	4.0	3.0	3.2	3.7	3.7	3.2	3.1	3.4	3.1	3.2	3.5	3.4	3.3	3.0	2.9	2.5	2.4	2.6	2.7	2.9	3.0	2.8	2.4	2.3	2.4	2.7	2.7	2.9
Unemployment Rate	3.5	3.6	3.5	3.4	3.6	3.6	3.5	3.7	3.8	3.9	3.7	3.8	3.7	3.9	3.9	3.9	4.0	4.1	4.2	4.2	4.1	4.1	4.2	4.1	4.0	4.1	4.2	4.2	4.2	4.1	4.2	4.3
U.S. Real GDP QoQ	2.9		2.5		4.7		3.4		0.8		3.6		3.3		1.9		-0.6		3.8		1.7% Est.*			
Consumption QoQ	4.5		1.5		3.1		3.0		1.7		3.9		4.0		3.9		0.6		2.5		1.5% Est*			

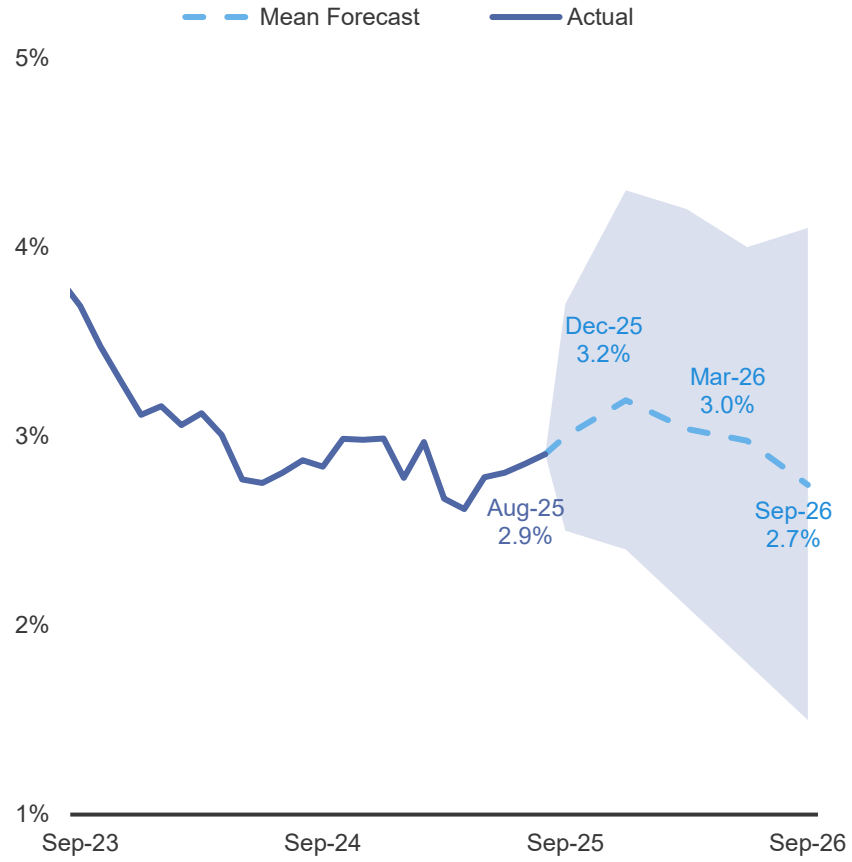
Worse | **Neutral** | **Better**

Source: FOMC Chair Jerome Powell Press Conference, September 17, 2025. Bloomberg Finance L.P., Bureau of Labor Statistics and Bureau of Economic Analysis as of August 2025.
The shading represents the deciles of each data point using 30 years of historical data.
**Median forecasts sourced from Bloomberg Finance L.P. as of October 2, 2025.*

The Fed's Dual Mandate Remains Complicated

Fed Chair Powell: "[T]he increase in goods prices accounts for most … or perhaps all of the increase in inflation over the course of this year. "

Core PCE Inflation (YoY)



Factors Influencing Slower Than Expected Pass-Through of Goods Inflation

- Inventory Drawdown
- Margin Compression
- Exceptions & Exclusions
- Shifting Trade Patterns
- Contractual Pricing

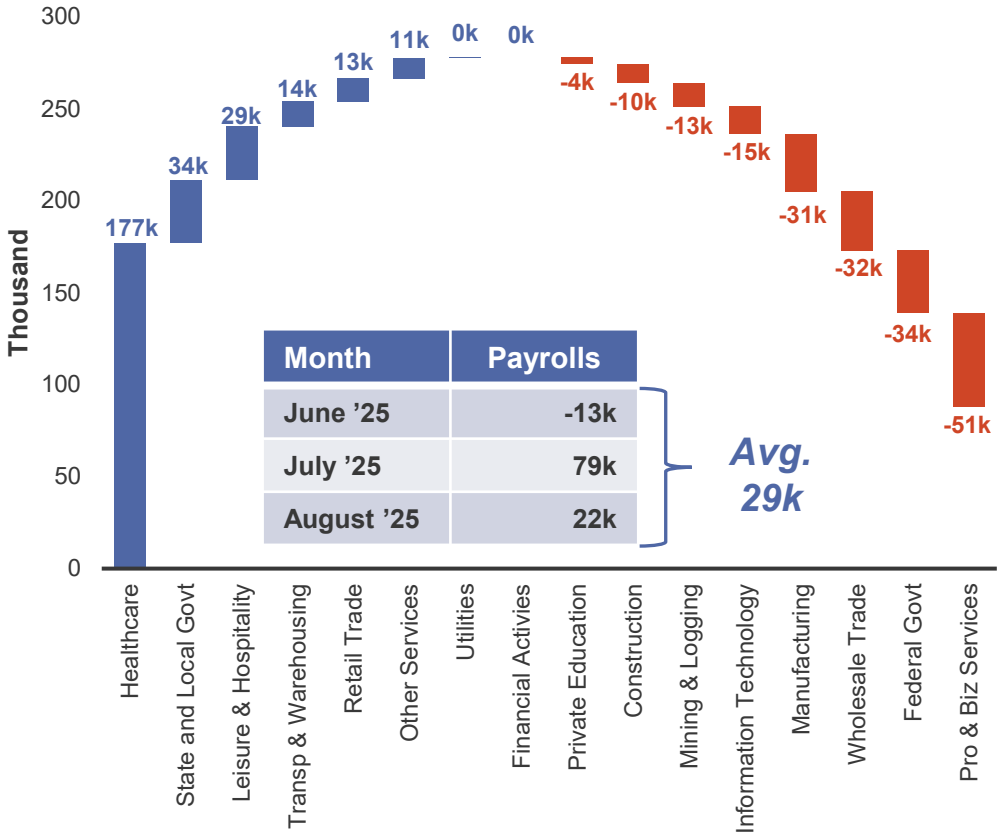
Source: FOMC Chair Jerome Powell Press Conference, September 17, 2025. Bureau of Economic Analysis, and Bloomberg Finance L.P., as of August 2025 (left). Survey responses after September 26, 2025, included in mean and forecast range.

The Fed's Dual Mandate Remains Complicated

Fed Chair Powell: "Labor demand has softened, and the recent pace of job creation appears to be running below the break-even rate needed to hold the unemployment rate constant."

Cumulative Job Growth

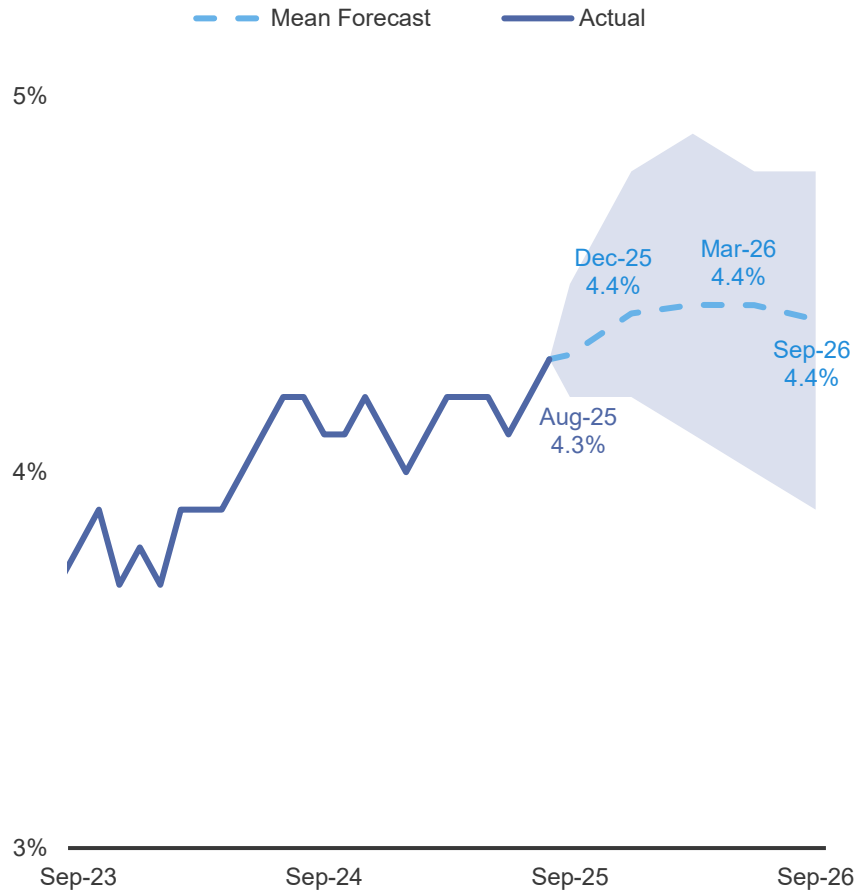
Jun-25 through Aug-25



Month	Payrolls
June '25	-13k
July '25	79k
August '25	22k

Avg. 29k

Unemployment Rate



Source: FOMC Chair Jerome Powell Press Conference, September 17, 2025. Bureau of Labor Statistics, and Bloomberg Finance L.P., as of August 2025. Data is seasonally adjusted. Survey responses after September 26, 2025, included in mean and forecast range.

Economic Uncertainty Challenges Outlook

Negative

- Net new job creation nears zero
- Sticky services inflation
- Increasing retail credit card balances
- Rising student loan delinquencies
- Planned federal spending cuts

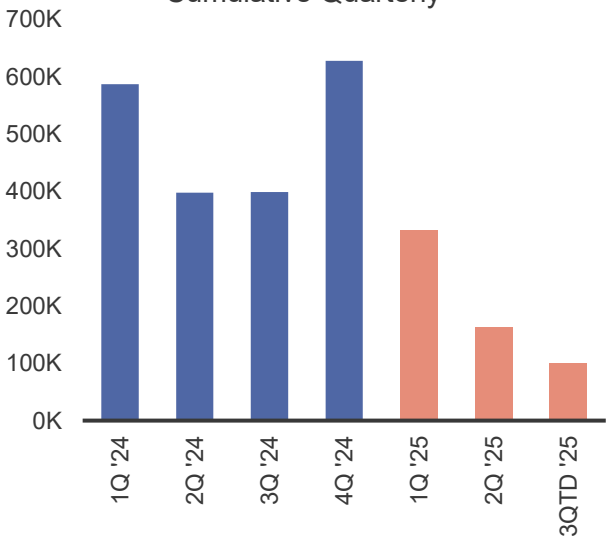
Neutral

- Slower tariff-based inflation passthrough
- Stabilizing credit card delinquencies
- Corporate fundamentals

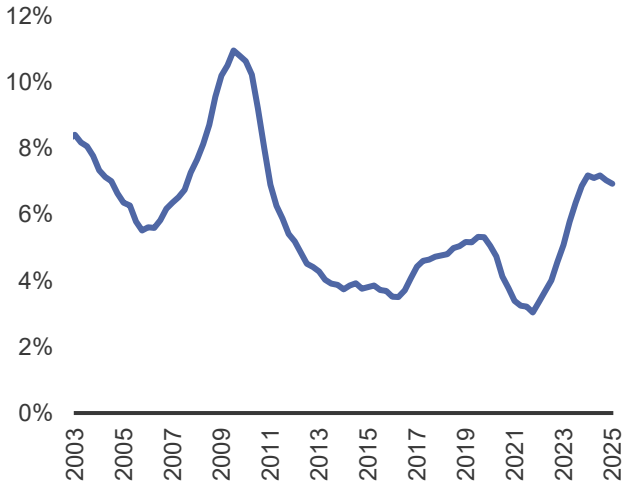
Positive

- Easing Fed Policy
- Resilient consumer spending
- Positive real disposable personal income growth
- Fiscal tailwinds to business investment

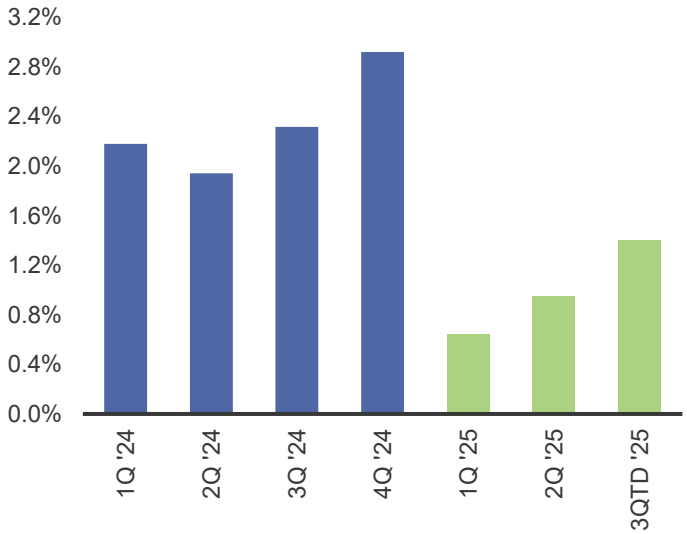
Nonfarm Payrolls
Cumulative Quarterly



Credit Card Delinquencies
90+ Days



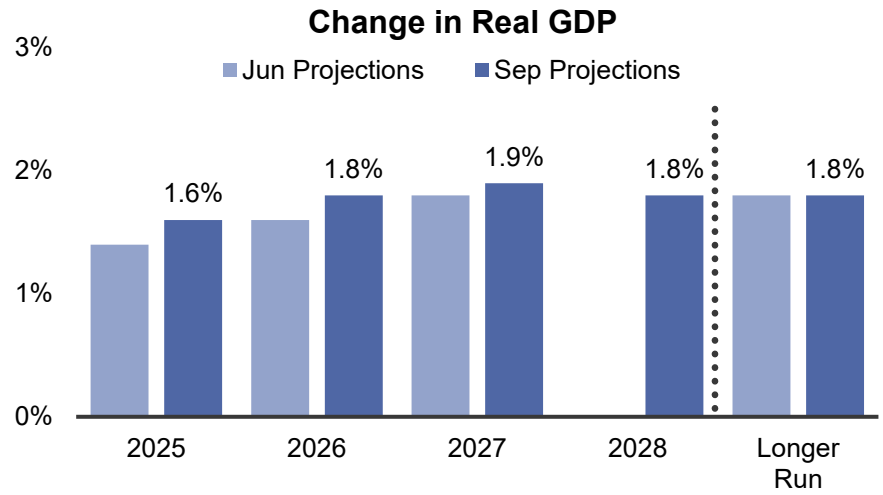
Personal Consumption
Quarter-Over-Quarter Change

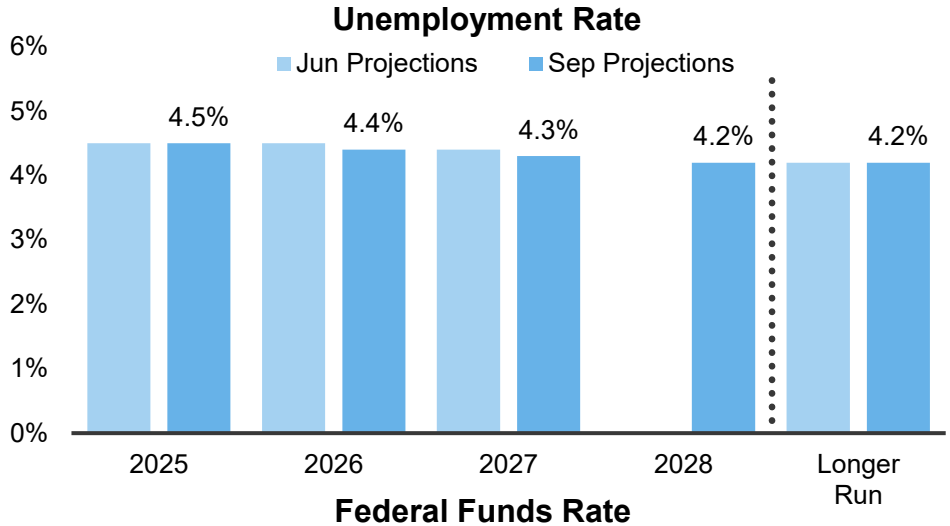


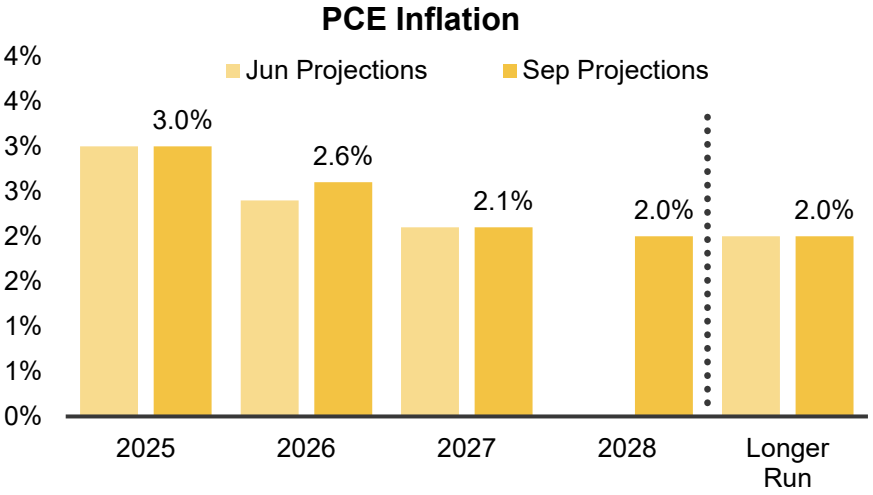
Sources: Bloomberg Finance L.P., Bureau of Labor Statistics as of August 2025, Federal Reserve Bank of New York as of June 2025, and Bureau of Economic Analysis as of August 2025.

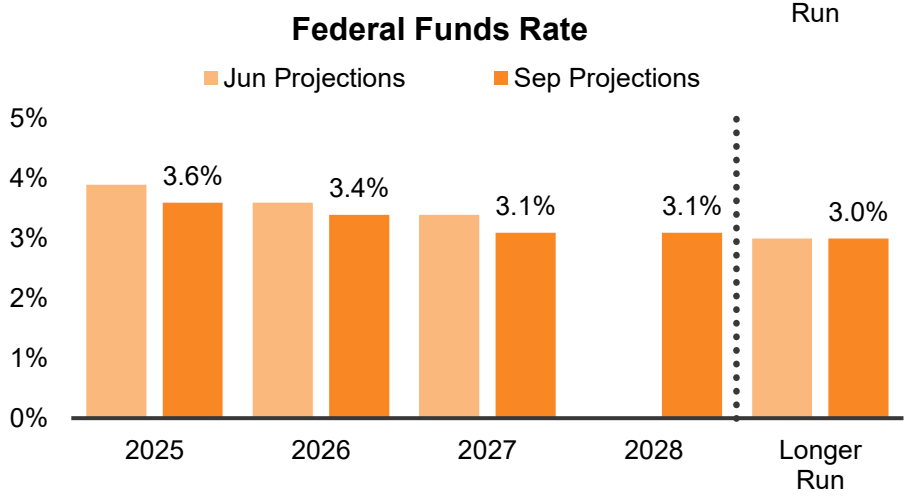
Fed's Updated Summary of Economic Projections

Fed Chair Powell: "[I]t's a difficult situation because we have risks that are both affecting the labor market and inflation, our two goals … When they're both at risk, we have to balance them"







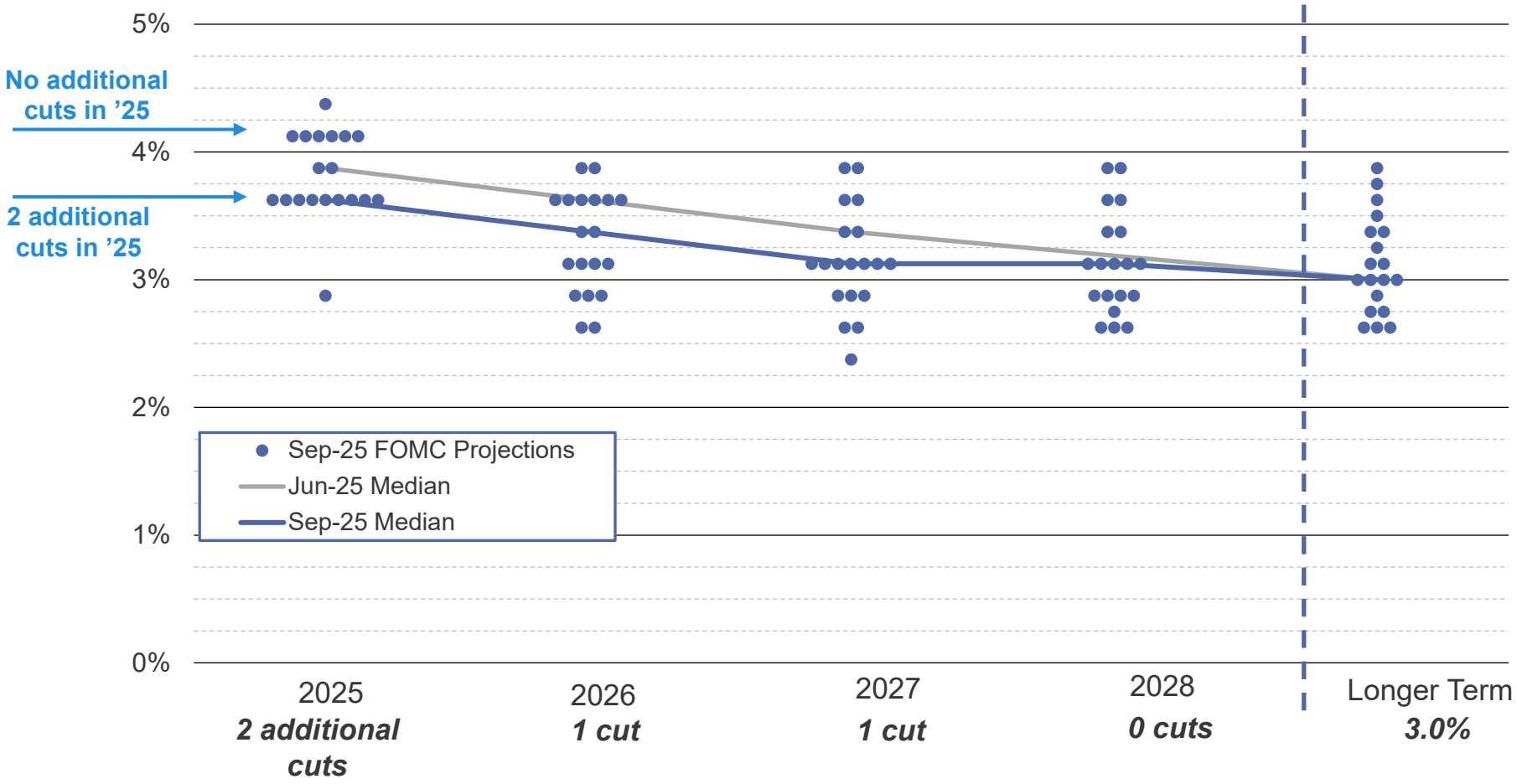


Source: FOMC Chair Jerome Powell Press Conference as of September 17, 2025. September 2025 was the first projection period for calendar year 2028.

The Latest Fed "Dot Plot"

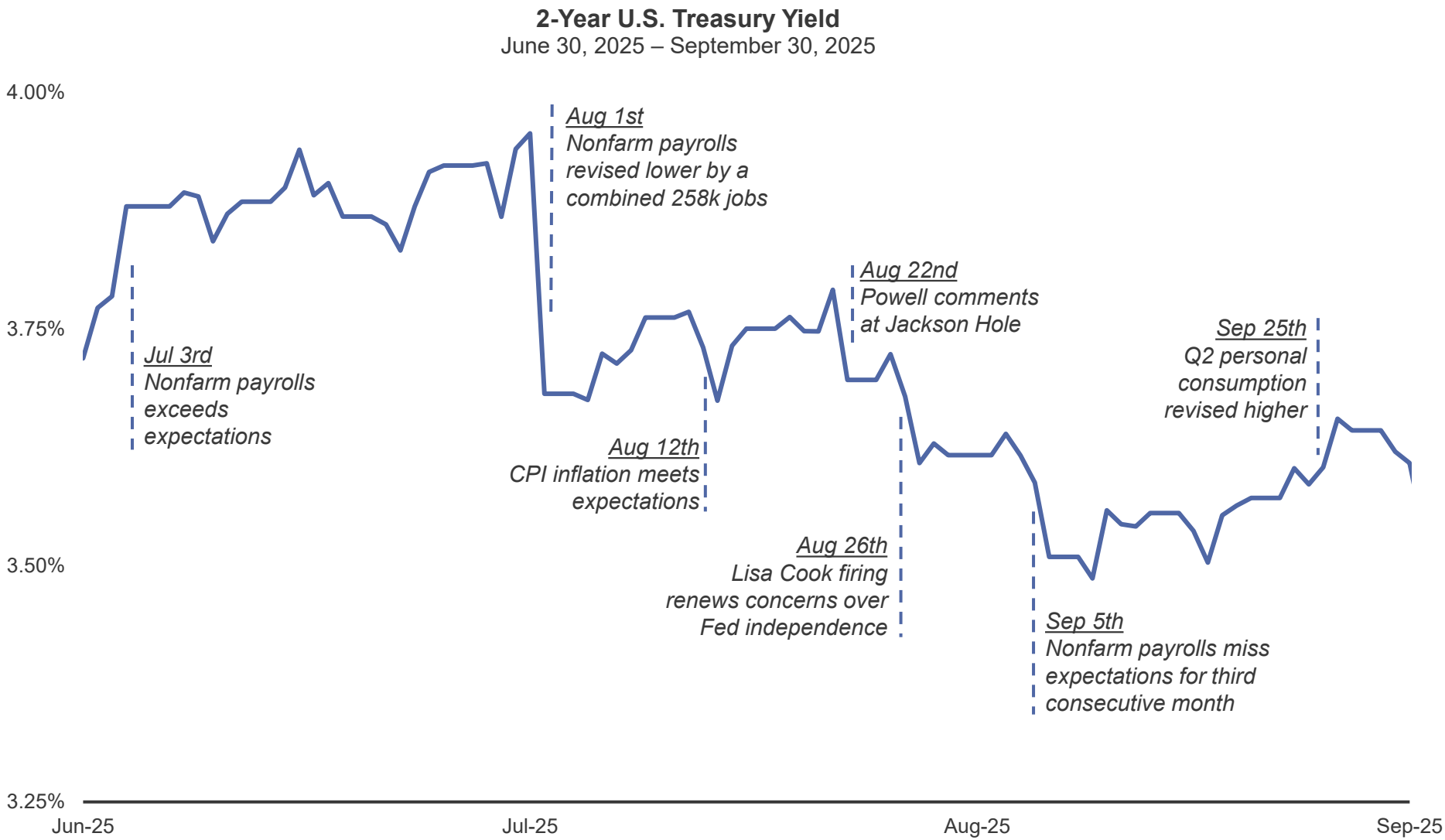
Fed Chair Powell: "[T]here are no risk-free paths now. It's not incredibly obvious what to do… [A]nd you'll see that there are just a range of views on what to do."

Fed Participants' Assessments of 'Appropriate' Monetary Policy



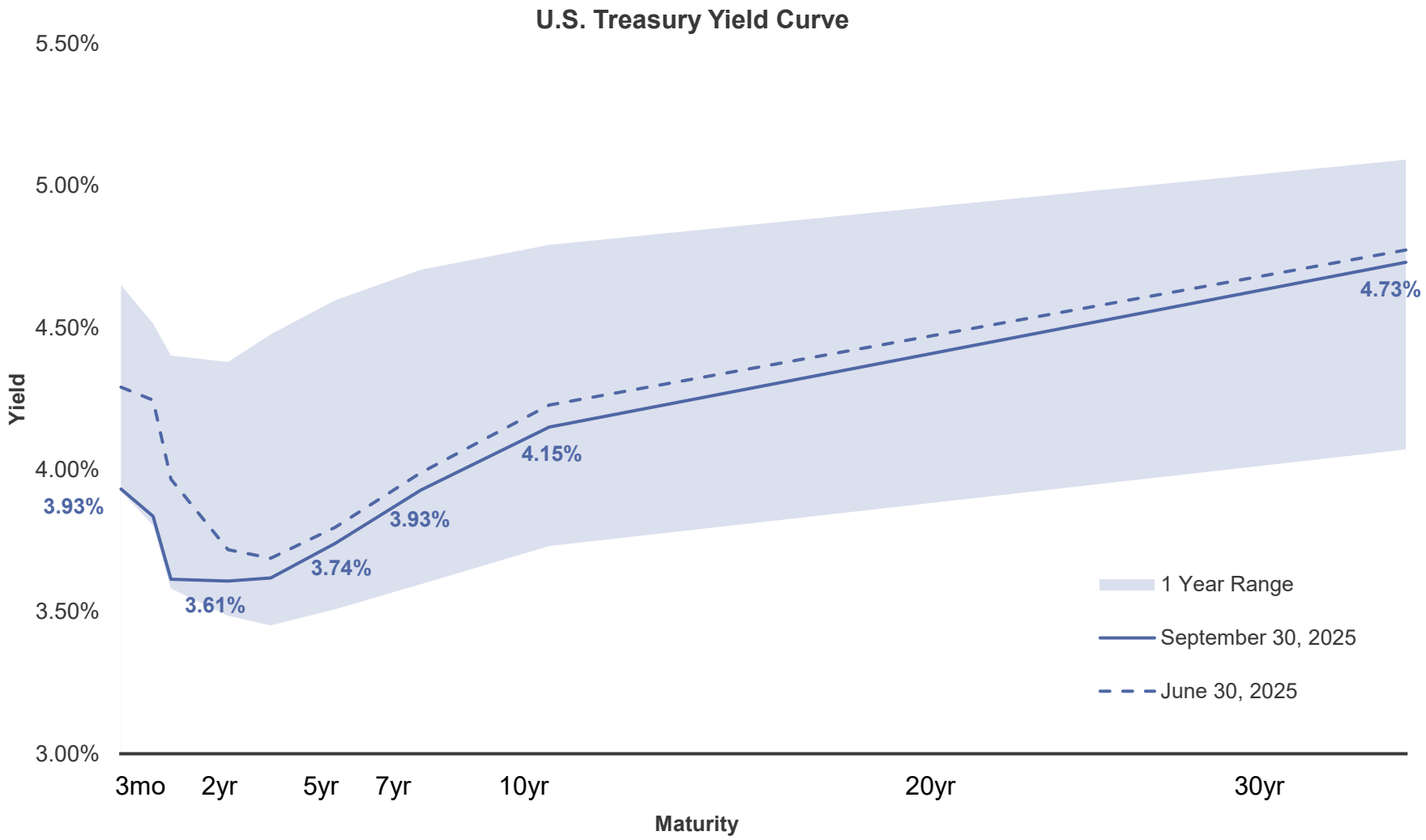
Source: Federal Reserve and FOMC Chair Jerome Powell Press Conference, as of September 17, 2025. Bloomberg Finance L.P.. Individual dots represent each Fed members' judgement of the midpoint of the appropriate target range for the federal funds rate at each year-end.

Treasury Yields Lower on Labor Market Risk



Source: Bloomberg Finance L.P., as of September 30, 2025.

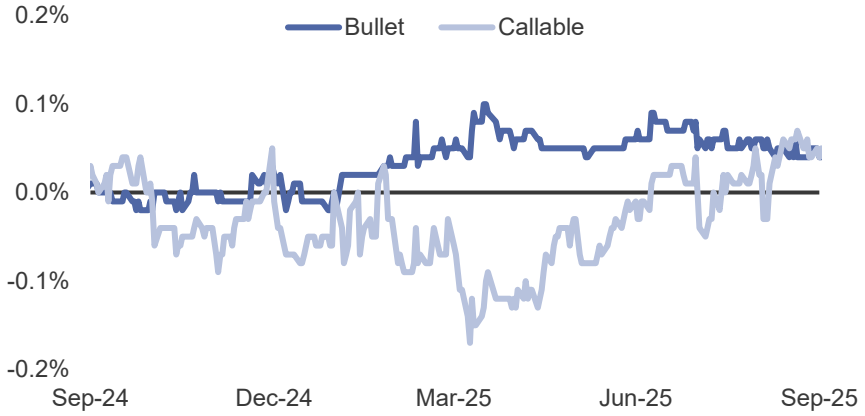
Front End Treasury Yields Move Lower



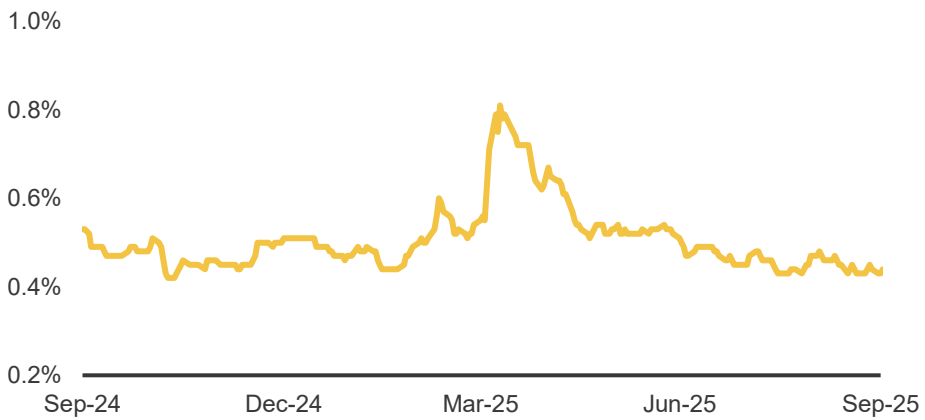
Source: Bloomberg Finance L.P., as of September 30, 2025.

Sector Yield Spreads

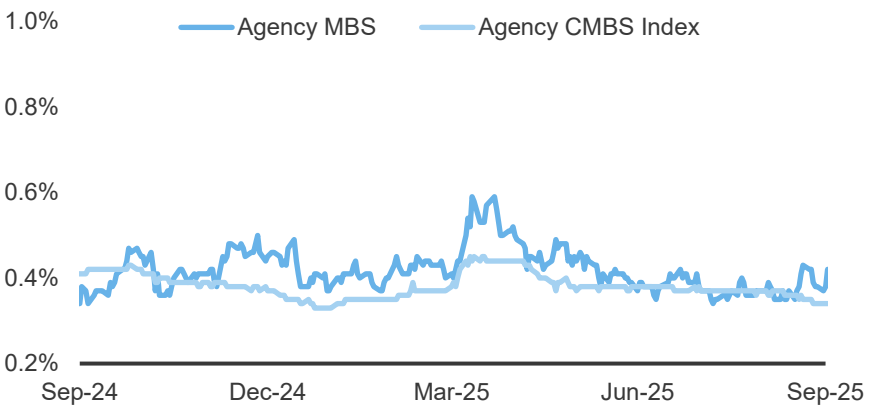
Federal Agency Yield Spreads



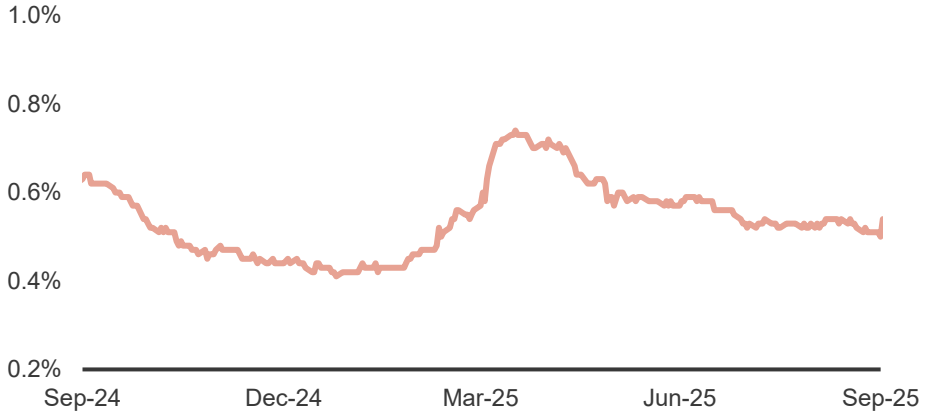
Corporate Notes A-AAA Yield Spreads



Mortgage-Backed Securities Yield Spreads



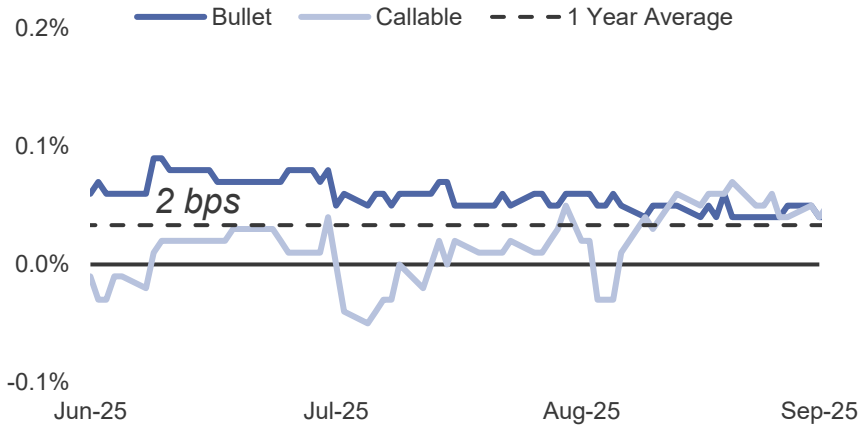
Asset-Backed Securities AAA Yield Spreads



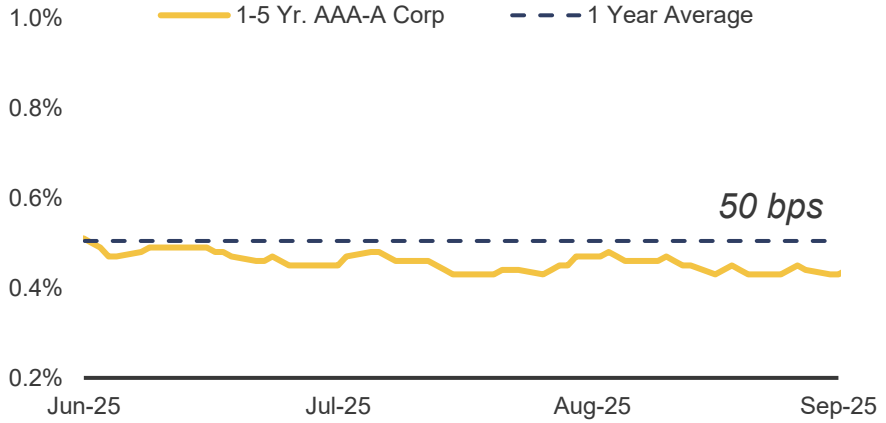
Source: ICE BofA 1-5 year Indices via Bloomberg Finance L.P. and PFMAM as of September 30, 2025. Spreads on ABS and MBS are option-adjusted spreads of 0-5 year indices based on weighted average life; spreads on agencies are relative to comparable maturity Treasuries.
CMBS is Commercial Mortgage-Backed Securities and represented by the ICE BofA Agency CMBS Index.

Sector Yield Spreads

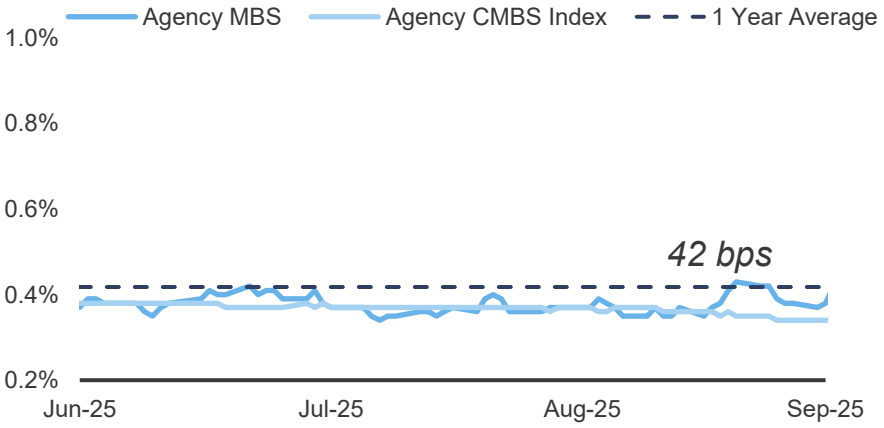
Federal Agency Yield Spreads



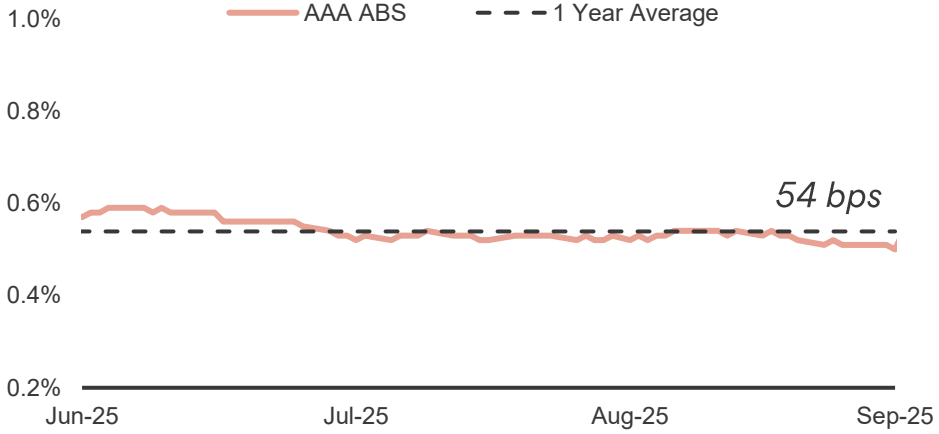
Corporate Notes A-AAA Yield Spreads



Mortgage-Backed Securities Yield Spreads



Asset-Backed Securities AAA Yield Spreads

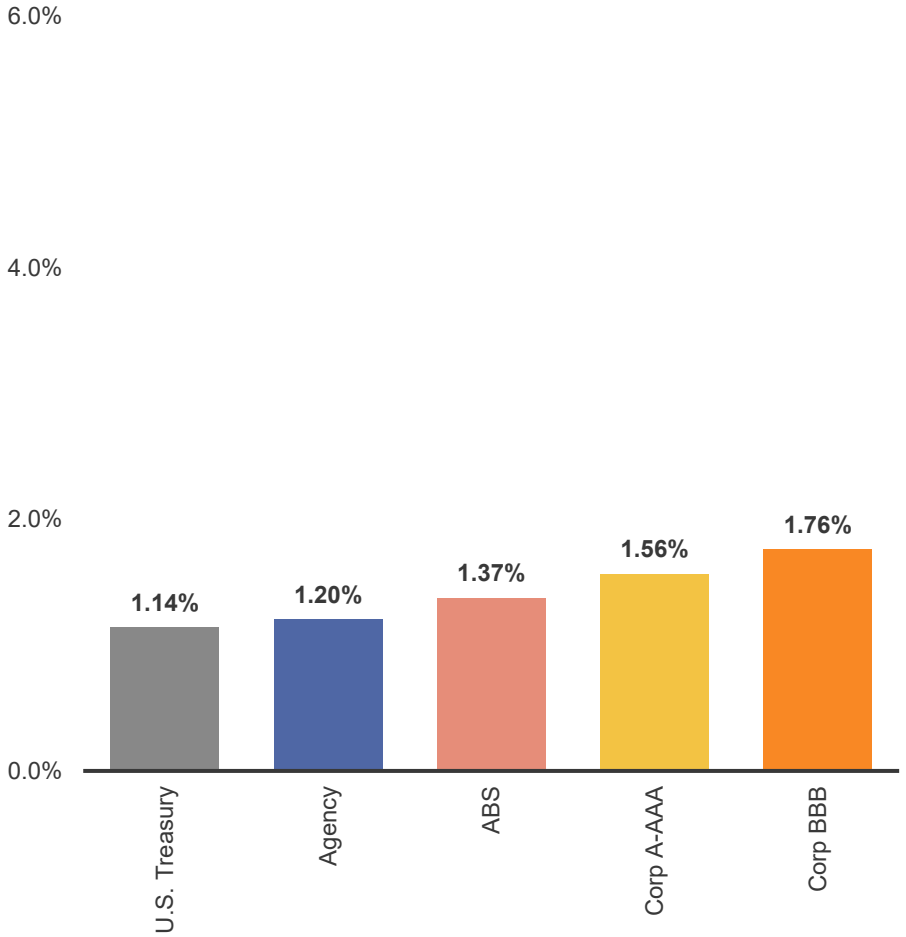


Source: ICE BofA 1-5 year Indices via Bloomberg Finance L.P. and PFMAM as of September 30, 2025. Spreads on ABS and MBS are option-adjusted spreads of 0-5 year indices based on weighted average life; spreads on agencies are relative to comparable maturity Treasuries.
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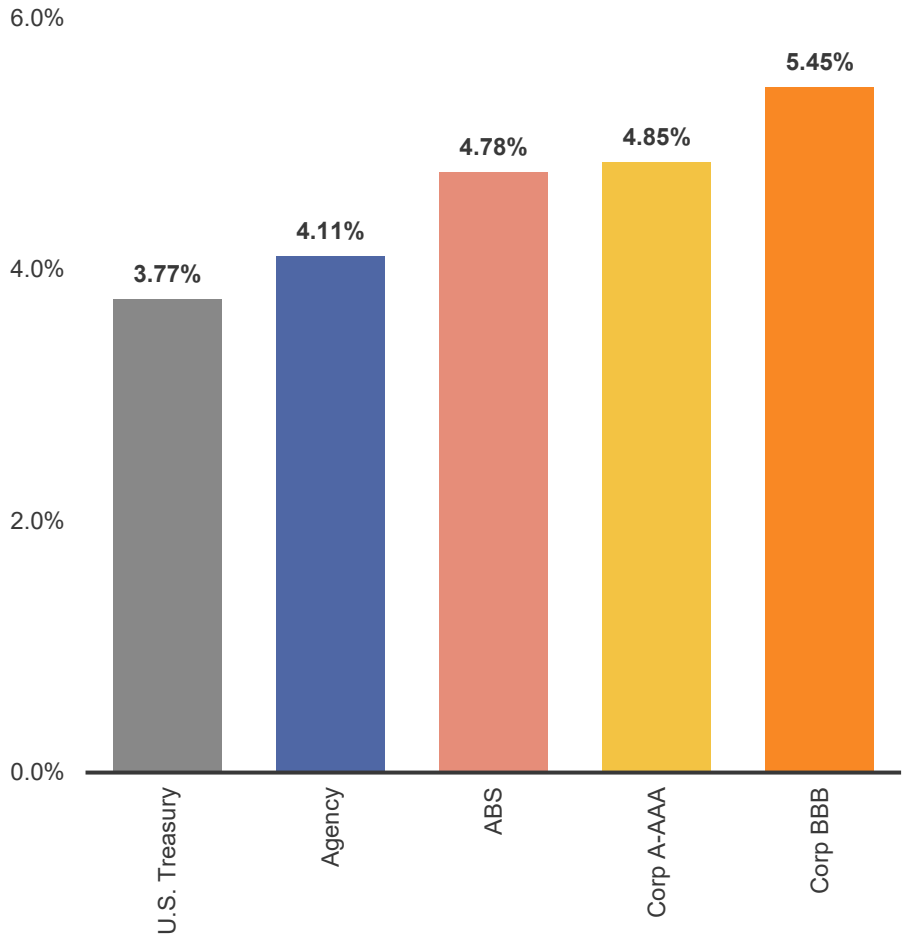
Fixed-Income Index Total Returns in 3Q 2025

1-5 Year Indices

Third Quarter 2025 Returns



1-Year Return



Source: ICE BofA Indices. ABS indices are 0-5 year, based on weighted average life. As of September 30, 2025.

Fixed – Income Sector Outlook – 4Q 2025

Sector	Our Investment Preferences
COMMERCIAL PAPER / CD	
TREASURIES	
T-Bill	
T-Note	
FEDERAL AGENCIES	
Bullets	
Callables	
SUPRANATIONALS	
CORPORATES	
Financials	
Industrials	
SECURITIZED	
Asset-Backed	
Agency Mortgage-Backed	
Agency CMBS	
MUNICIPALS	



Fixed-Income Sector Commentary – 3Q 2025

- The **Federal Open Market Committee (FOMC)** lowered the target range for the federal funds rate to 4.00-4.25% during the September 17th meeting, citing weakening in the labor market.
- **U.S. Treasury** yields across all maturities moved lower over the quarter. The change in yields reflected ongoing market sensitivity to the Fed, with concerns regarding the labor market taking center stage amid ongoing weakness. As a result of the Treasury rally, total returns were positive for the quarter.
- **Federal Agency & supranational** spreads remained low and traded in a narrow range throughout Q3. Excess returns remained muted in part due to limited issuance, which is a trend we expect to continue.
- **Investment-Grade (IG) corporate** bonds generated strong excess returns as spreads narrowed to multi-year lows across most maturities. Lower-quality and longer-duration bonds led performance, supported by strong investor demand.
- **Asset-Backed Securities** spreads tightened but remain modestly elevated versus 12-month lows. While excess returns were positive, they lagged those of IG corporates. Auto loan collateral modestly outperformed credit card-backed securities.
- **Agency-backed mortgage-backed securities (MBS)** delivered solid performance with positive excess returns across the board. Longer-duration MBS stood out as a top-performing IG sector in Q3. **Agency-backed commercial MBS (CMBS)** also posted positive excess returns for the quarter.
- **Short-term credit** (commercial paper and negotiable bank CDs) yields declined as Treasury issuance surged and the Fed cut rates. Short-end yield spreads widened over the quarter and demand remained strong as investors viewed the sector as a hedge against future rate cuts.

The views expressed within this material constitute the perspective and judgment of PFM Asset Management at the time of distribution (09/30/2025) and are subject to change. Information is obtained from sources generally believed to be reliable and available to the public; however, PFM Asset Management cannot guarantee its accuracy, completeness, or suitability.

Fixed-Income Sector Outlook – 4Q 2025

- **U.S. Treasury** volatility is expected to increase from multi-year lows given both fiscal and monetary policy uncertainty. The potential collective impact of further policy changes on economic growth, inflation, and labor markets are unknown. We expect to see an ongoing steepening of the yield curve given the expectation for future Fed rate cuts.
- **Federal Agency & Supranational** spreads are likely to remain at tight levels. Government-heavy accounts may find occasional value on an issue-by-issue basis.
- **Taxable Municipals** continue to see little activity due to an ongoing lack of supply and strong demand which continues to suppress yields in both the new issue and secondary markets. We expect few opportunities in the near term.
- **Investment-Grade (IG) Corporate** bond fundamentals and valuations weakened while technicals have improved modestly. We will evaluate opportunities with a focus on industry fundamentals and issuer credit quality while identifying rich holdings to tactically reduce allocations.
- **Asset-Backed Securities** fundamentals remain intact and credit metrics have normalized. Consumer credit trends will depend on the labor market and the consumer's response to monetary policy easing, which tends to work on a lag. We expect spreads to continue to exhibit volatility with a bias towards widening, while low issuance in Q4 will support technicals in the sector.
- **Mortgage-Backed Securities** are expected to underperform over the short term with spreads at their narrowest levels in 3-years. We may use any meaningful spread widening to add at more attractive levels.
- **Short-term credit** (commercial paper and negotiable bank CDs) spreads in Q4 will continue to be primarily driven by expectations about monetary policy decisions by the FOMC. Given the positively sloped shape of the money market yield curve, we favor a mix of floating rate securities in the front end and fixed rate securities in longer maturities.

The views expressed within this material constitute the perspective and judgment of PFM Asset Management at the time of distribution (09/30/2025) and are subject to change. Information is obtained from sources generally believed to be reliable and available to the public; however, PFM Asset Management cannot guarantee its accuracy, completeness, or suitability.

Factors to Consider for 6-12 Months

Monetary Policy (Global):



- The Fed cut rates by 25 bps in September citing rising downside risks to employment despite inflation remaining above its 2% target. This was the Fed's first rate cut since December 2024.
- The "dot plot" signals 50 bps in additional cuts for 2025, though views remain split, with 7 members favoring no additional cuts in 2025.
- Major central banks have already eased (ECB and BOE) or are in the process of further easing (U.S. and Canada) except for the BOJ slowly tightening policy after decades of easy monetary policy.

Economic Growth (Global):



- U.S. growth continues to be resilient driven by an unwind of the trade and inventory dynamics earlier in the year as well as robust consumer spending and elevated business investment
- Consumer spending and business investment remain strong despite growing softness in the labor market.
- Trade tensions, elevated tariffs and a prolonged U.S. government shutdown remain key downside risks to growth, while AI driven investment and fiscal support in some regions provide partial offsets.

Inflation (U.S.):



Inflation accelerated in Q3 led by rising goods prices and sticky services costs, keeping core inflation closer to 3%, well above the Fed's 2% target.

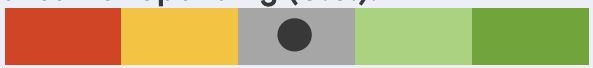
- Fed projections show a longer timeline for inflation to reach its 2% target.
- Fed Chair Powell noted tariffs have begun to push up goods prices in some categories, but the base case is for these effects to be short-lived.

Financial Conditions (U.S.):



- Financial conditions eased as tariff announcements were digested. This sparked renewed market confidence which resulted in equities reaching new all-time highs and credit spreads tightening to historically narrow levels.
- Fiscal uncertainty and geopolitical risks could reintroduce tighter financial conditions over the next 6-12 months.

Consumer Spending (U.S.):



- Slower nominal wage growth combined with higher inflation has eroded real purchasing power.
- However, consumer activity remained resilient, driven by spending from higher income households.
- Consumer confidence improved slightly but remains below historical averages, reflecting concerns over slower hiring and inflation persistence.
- Further labor market softness, a significant correction in the equity market or more complete pass-through of tariffs into consumer prices remain the largest threats to consumer spending.

Labor Markets (U.S.):



- Labor market conditions continued to cool with net new job creation nearing zero while being concentrated in just a few service sectors.
- Despite some signs of cooling, the layoff rate remains low and points towards employers adopting what has been characterized as a "no hire, no fire" approach.
- The unemployment rate ticked up modestly, job openings declined further, and the quits rate remain subdued, signaling reduced worker leverage.
- Initial jobless claims remain low, but longer job search durations suggest labor market conditions continue to loosen.



Statements and opinions expressed about the next 6-12 months were developed based on our independent research with information obtained from Bloomberg Finance L.P. and FactSet. The views expressed within this material constitute the perspective and judgment of PFM Asset Management at the time of distribution (9/30/2025) and are subject to change. Information is obtained from sources generally believed to be reliable and available to the public; however, PFM Asset Management cannot guarantee its accuracy, completeness, or suitability.

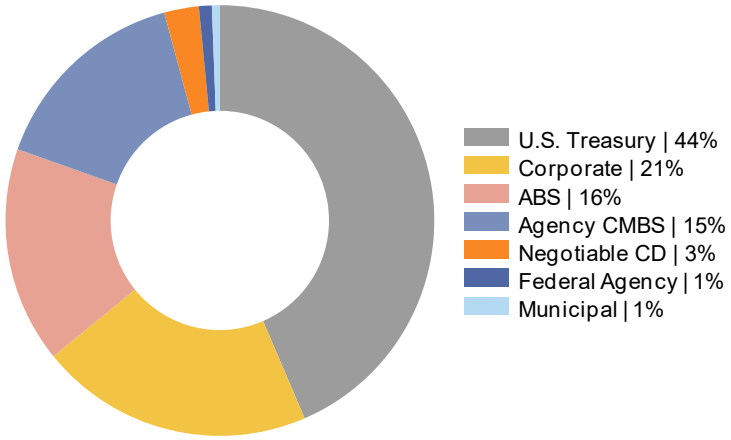
Account Summary

Consolidated Summary

Account Summary

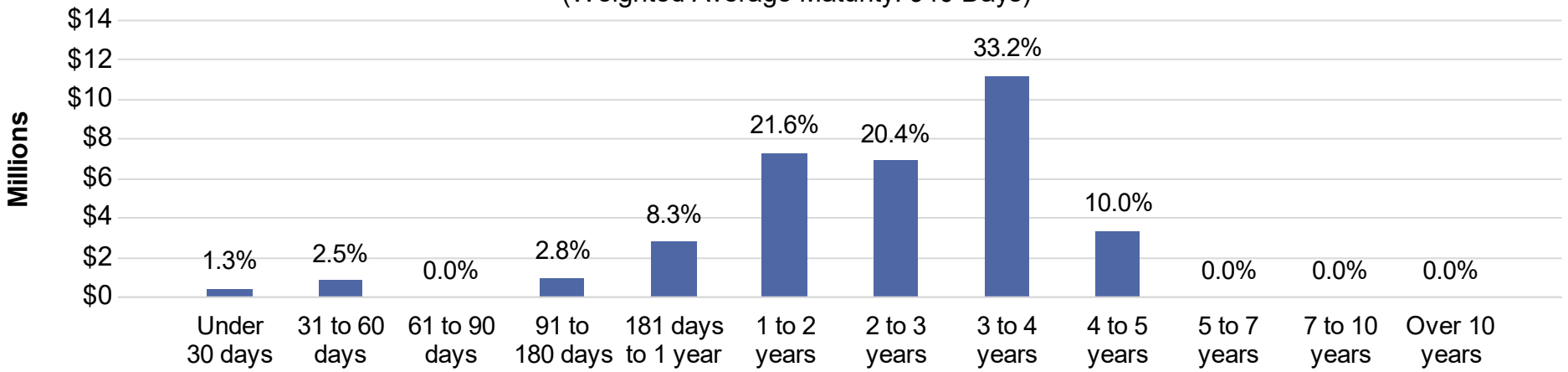
PFMAM Managed Account	$34,280,894
Total Program	**$34,280,894**

Sector Allocation



Maturity Distribution

(Weighted Average Maturity: 940 Days)



1. Account summary and sector allocation include market values, accrued interest, and overnight balances. Maturity distribution includes market values and excludes accrued interest and overnight balances

Account Summary

CITY OF BENICIA RESERVES

Portfolio Values	September 30, 2025
PFMAM Managed Account	$33,530,999
Amortized Cost	$33,241,153
Market Value	$33,530,999
Accrued Interest	$216,373
Cash	$533,522

Analytics[1]	September 30, 2025
Yield at Market	3.92%
Yield on Cost	4.09%
Portfolio Duration	2.02

1. Yield at market, yield on cost, and portfolio duration only include investments held within the separately managed account(s), excludes balances invested in overnight funds.

Portfolio Review:
CITY OF BENICIA RESERVES

Certificate of Compliance

During the reporting period for the quarter ended September 30, 2025, the account(s) managed by PFM Asset Management ("PFMAM") were in compliance with the applicable investment policy and guidelines as furnished to PFMAM.

Acknowledged : *PFM Asset Management, a division of U.S. Bancorp Asset Management, Inc.*

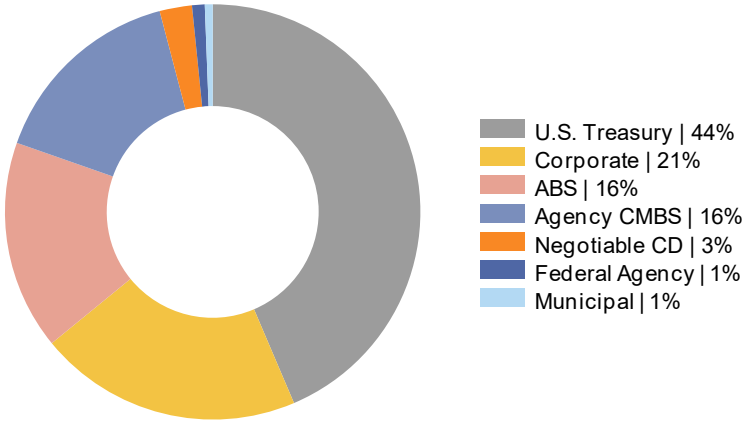
Note: Pre- and post-trade compliance for the account(s) managed by PFM Asset Management is provided via Bloomberg Financial LP Asset and Investment Management ("AIM").

Portfolio Snapshot - CITY OF BENICIA RESERVES[1]

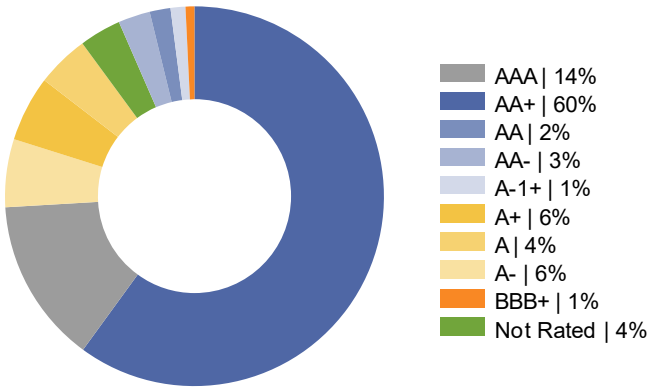
Portfolio Statistics

Total Market Value	$34,280,894.30
Securities Sub-Total	*$33,530,999.39*
Accrued Interest	*$216,372.94*
Cash	*$533,521.97*
Portfolio Effective Duration	2.02 years
Benchmark Effective Duration	N/A
Yield At Cost	4.09%
Yield At Market	3.92%
Portfolio Credit Quality	AA

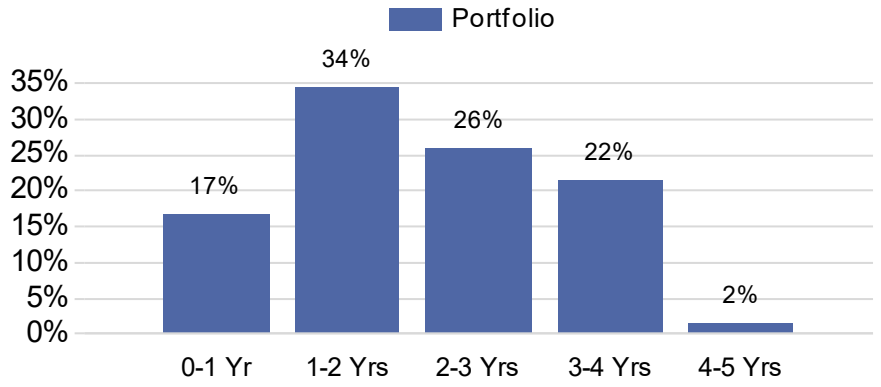
Sector Allocation



Credit Quality - S&P



Duration Distribution

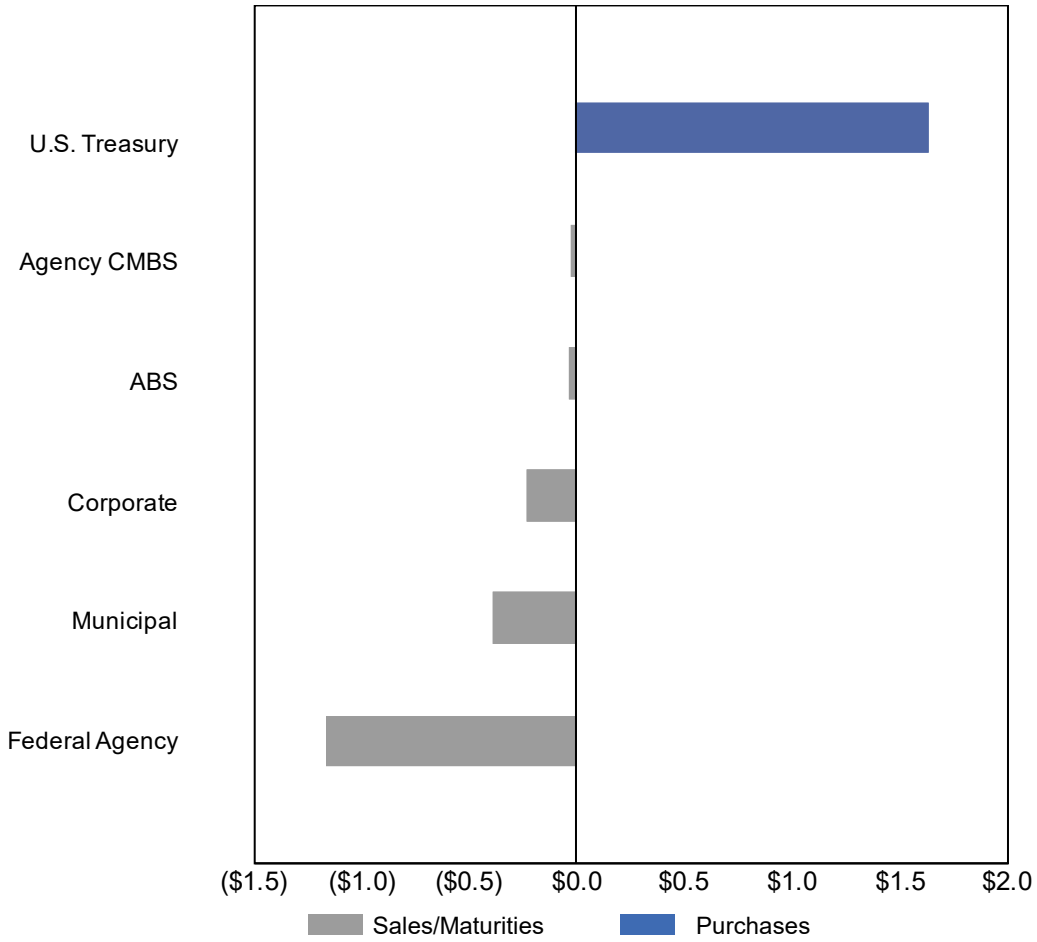


1. *Total market value includes accrued interest and balances invested in PFM AM, as of June 30, 2025.*
Yield and duration calculations exclude balances invested in PFM AM.
The portfolio's benchmark is currently the ICE BofA 0-5 Year U.S Treasury Index. Prior to 6/30/06 it was the ICE BofA 1-3 Year U.S Treasury Index. Source: Bloomberg Financial LP.
An average of each security's credit rating was assigned a numeric value and adjusted for its relative weighting in the portfolio.

Portfolio Activity - CITY OF BENICIA RESERVES

Net Activity by Sector

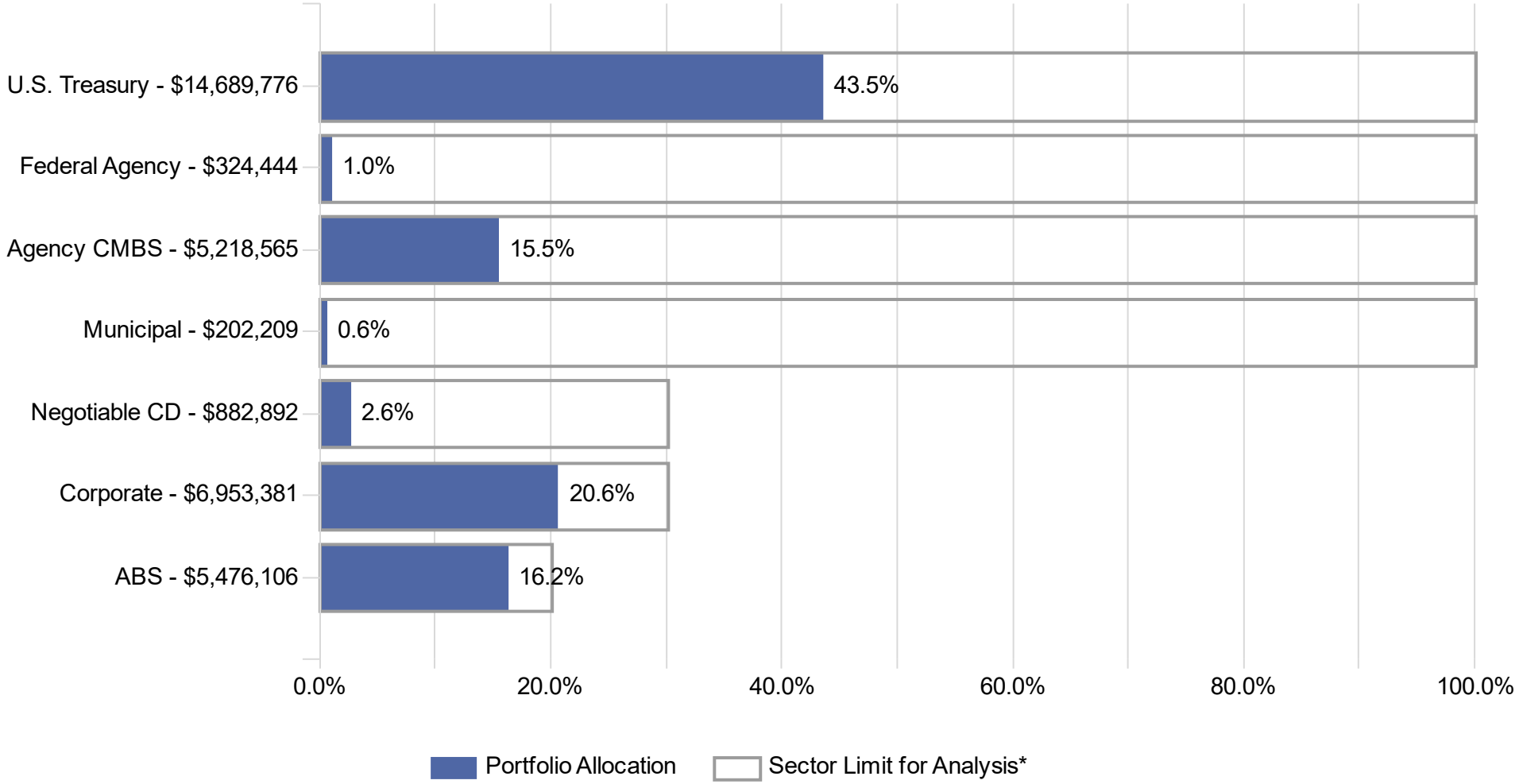
($ millions)



Sector	Net Activity
U.S. Treasury	$1,625,824
Agency CMBS	($18,182)
ABS	($28,493)
Corporate	($225,000)
Municipal	($385,000)
Federal Agency	($1,160,000)
Total Net Activity	**($190,852)**

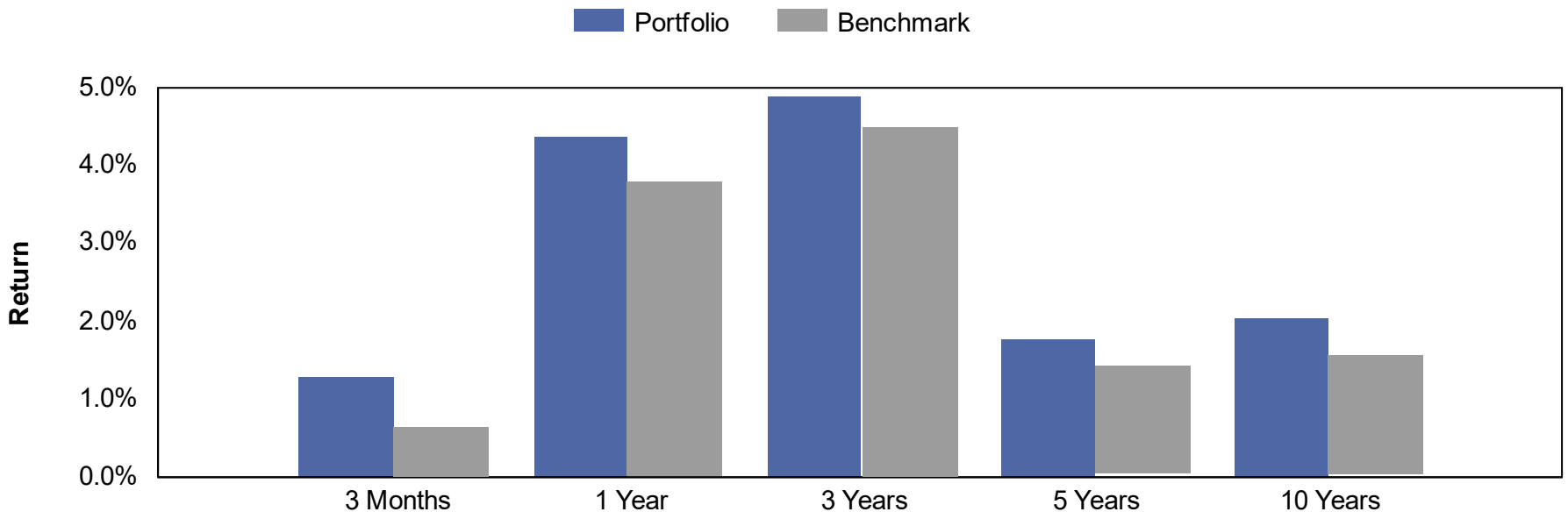
Based on total proceeds (principal and accrued interest) of buys, sells, maturities, and principal paydowns. Detail may not add to total due to rounding.

Sector Allocation Analytics



For informational/analytical purposes only and is not provided for compliance assurance. Includes accrued interest.
**Sector Limit for Analysis is as derived from our interpretation of your most recent Investment Policy as provided.*

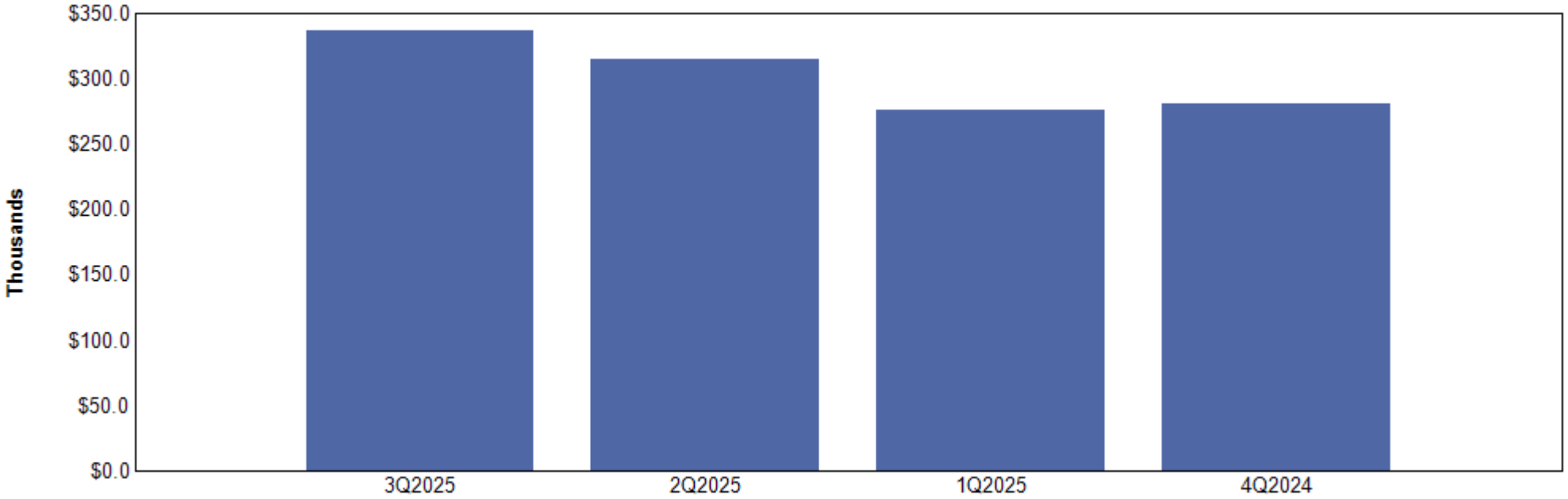
Portfolio Performance



Market Value Basis Earnings	3 Months	1 Year	3 Years	5 Years	10 Years
Interest Earned[2]	$286,341	$1,037,845	$2,312,805	$3,172,466	$5,612,950
Change in Market Value	$151,948	$400,113	$2,261,219	($284,776)	$621,267
Total Dollar Return	**$438,289**	**$1,437,958**	**$4,574,024**	**$2,887,690**	**$6,234,217**
Total Return[3]					
Portfolio	1.30%	4.38%	4.89%	1.78%	2.03%
Benchmark[4]	1.15%	3.91%	4.52%	1.51%	1.76%
Difference	0.15%	0.47%	0.37%	0.27%	0.27%

1. *The lesser of 10 years or since inception is shown. Since inception returns for periods one year or less are not shown. Performance inception date is December 31, 2005.*
2. *Interest earned calculated as the ending accrued interest less beginning accrued interest, plus net interest activity.*
3. *Returns for periods one year or less are presented on a periodic basis. Returns for periods greater than one year are presented on an annualized basis.*
4. *The portfolio's benchmark is currently the ICE BofA 0-5 Year U.S Treasury Index. Prior to 6/30/06 it was the ICE BofA 1-3 Year U.S Treasury Index. Source: Bloomberg Financial LP.*

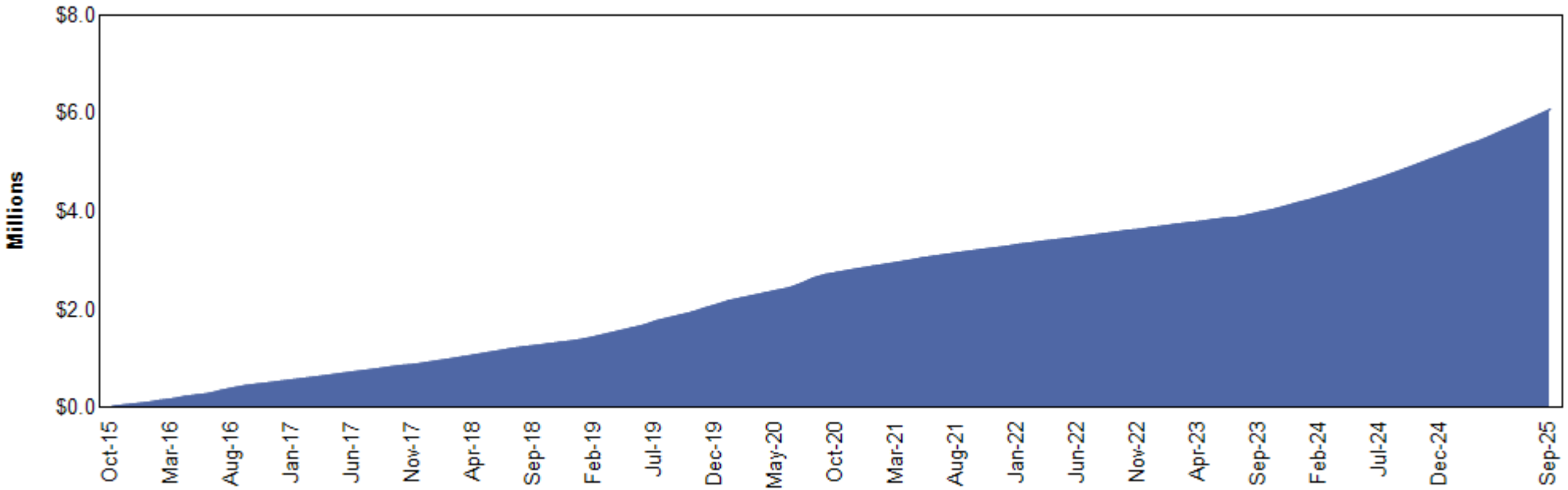
Accrual Basis Earnings - CITY OF BENICIA RESERVES



Accrual Basis Earnings	3Q2025	2Q2025	1Q2025	4Q2024
Interest Earned[1]	$286,341	$269,145	$244,933	$237,426
Realized Gains / (Losses)[2]	$62	($3,623)	($17,217)	($1,019)
Change in Amortized Cost	$50,274	$49,423	$48,799	$44,539
Total Earnings	**$336,676**	**$314,945**	**$276,515**	**$280,946**

1. Interest earned calculated as the ending accrued interest less beginning accrued interest, plus net interest activity.
2. Realized gains / (losses) are shown on an amortized cost basis.

Accrual Basis Earnings - CITY OF BENICIA RESERVES



Accrual Basis Earnings	3 Months	1 Year	3 Years	5 Year	10 Year[1]
Interest Earned[2]	$286,341	$1,037,845	$2,312,805	$3,172,466	$5,612,950
Realized Gains / (Losses)[3]	$62	($21,797)	($219,935)	($191,341)	$14,007
Change in Amortized Cost	$50,274	$193,035	$411,452	$387,378	$460,038
Total Earnings	**$336,676**	**$1,209,082**	**$2,504,323**	**$3,368,503**	**$6,086,995**

1. The lesser of 10 years or since inception is shown. Performance inception date is December 31, 2005.
2. Interest earned calculated as the ending accrued interest less beginning accrued interest, plus net interest activity.
3. Realized gains / (losses) are shown on an amortized cost basis.

Portfolio Holdings and Transactions

Issuer Diversification

Security Type / Issuer	Market Value (%)	S&P / Moody's / Fitch
U.S. Treasury	**43.5%**	
United States Treasury	43.5%	AA / Aa / AA
Federal Agency	**1.0%**	
Federal National Mortgage Association	1.0%	AA / Aa / AA
Agency CMBS	**15.5%**	
Federal Home Loan Mortgage Corp	14.6%	AA / Aa / AA
Federal National Mortgage Association	0.9%	AA / Aa / AA
Municipal	**0.6%**	
California State University	0.2%	AA / Aa / NR
State of California	0.4%	AA / Aa / AA
Negotiable CD	**2.6%**	
Nordea Bank Abp	1.3%	AA / Aa / AA
Toronto-Dominion Bank	1.3%	A / A / NR
Corporate	**20.6%**	
Adobe Inc	0.7%	A / A / NR
Air Products and Chemicals Inc	0.6%	A / A / NR
American Express Co	0.8%	A / A / A
Analog Devices Inc	0.8%	A / A / A
Bank of America Corp	1.5%	A / A / AA
Bank of New York Mellon Corp	1.3%	A / Aa / AA
Berkshire Hathaway Inc	1.3%	AA / Aa / A
BlackRock Inc	1.4%	AA / Aa / NR
Caterpillar Inc	0.7%	A / A / A
Cisco Systems Inc	0.7%	AA / A / NR
Citigroup Inc	1.4%	A / Aa / A
Deere & Co	0.7%	A / A / A

Security Type / Issuer	Market Value (%)	S&P / Moody's / Fitch
Corporate	**20.6%**	
Home Depot Inc	0.7%	A / A / A
Honda Motor Co Ltd	0.7%	A / A / NR
Lockheed Martin Corp	0.1%	A / A / A
Merck & Co Inc	0.3%	A / Aa / NR
Microsoft Corp	1.3%	AAA / Aaa / NR
Morgan Stanley	1.0%	A / Aa / AA
National Rural Utilities Cooperative Fi	0.7%	A / A / A
PACCAR Inc	0.8%	A / A / NR
State Street Corp	0.4%	A / Aa / AA
Target Corp	0.1%	A / A / A
Texas Instruments Inc	0.2%	A / Aa / NR
Toyota Motor Corp	0.7%	A / A / A
UnitedHealth Group Inc	0.7%	A / A / A
Walmart Inc	0.5%	AA / Aa / AA
Wells Fargo & Co	0.8%	BBB / A / A
ABS	**16.2%**	
Ally Auto Receivables Trust	0.3%	AAA / NR / AAA
American Express Co	2.5%	AAA / NR / AAA
BA Credit Card Trust	0.8%	AAA / Aaa / AAA
BMW Vehicle Lease Trust	0.5%	AAA / Aaa / NR
Capital One Financial Corp	0.9%	AAA / NR / AAA
Citigroup Inc	1.1%	AAA / Aaa / NR
Ford Credit Auto Owner Trust	0.8%	AAA / Aaa / NR
GM Financial Consumer Automobile Receiv	0.4%	AAA / Aaa / NR
Harley-Davidson Inc	0.1%	NR / Aaa / AAA
Honda Auto Receivables Owner Trust	1.8%	AAA / Aaa / AAA

Ratings shown are calculated by assigning a numeral value to each security rating, then calculating a weighted average rating for each security type / issuer category using all available security ratings, excluding Not-Rated (NR) ratings. For security type / issuer categories where a rating from the applicable NRSRO is not available, a rating of NR is assigned. Includes accrued interest and excludes balances invested in overnight funds.

Issuer Diversification

Security Type / Issuer	Market Value (%)	S&P / Moody's / Fitch
ABS	**16.2%**	
Hyundai Auto Receivables Trust	1.0%	AAA / NR / AAA
JPMorgan Chase & Co	0.8%	AAA / NR / AAA
Nissan Auto Receivables Owner Trust	0.9%	NR / Aaa / AAA
Toyota Auto Receivables Owner Trust	1.1%	AAA / Aaa / AAA
Verizon Master Trust	0.8%	NR / Aaa / AAA
Volkswagen Auto Loan Enhanced Trust	0.9%	AAA / Aaa / AAA
WF Card Issuance Trust	1.4%	AAA / Aaa / AAA
Total	**100.0%**	

Ratings shown are calculated by assigning a numeral value to each security rating, then calculating a weighted average rating for each security type / issuer category using all available security ratings, excluding Not-Rated (NR) ratings. For security type / issuer categories where a rating from the applicable NRSRO is not available, a rating of NR is assigned. Includes accrued interest and excludes balances invested in overnight funds.

Issuer Distribution
As of September 30, 2025

Issuer	Market Value ($)	% of Portfolio
UNITED STATES TREASURY	14,604,690	43.55 %
FEDERAL HOME LOAN MORTGAGE CORP	4,913,072	14.65 %
AMERICAN EXPRESS CO	1,112,558	3.32 %
CITIGROUP INC	825,649	2.46 %
FEDERAL NATIONAL MORTGAGE ASSOCIATION	610,791	1.82 %
HONDA AUTO RECEIVABLES OWNER TRUST	599,145	1.79 %
BANK OF AMERICA CORP	506,195	1.51 %
WF CARD ISSUANCE TRUST	479,676	1.43 %
BLACKROCK INC	460,299	1.37 %
MICROSOFT CORP	447,332	1.33 %
BERKSHIRE HATHAWAY INC	440,634	1.31 %
BANK OF NEW YORK MELLON CORP	439,409	1.31 %
TORONTO-DOMINION BANK	425,418	1.27 %
NORDEA BANK ABP	425,268	1.27 %
TOYOTA AUTO RECEIVABLES OWNER TRUST	358,529	1.07 %
HYUNDAI AUTO RECEIVABLES TRUST	332,517	0.99 %
MORGAN STANLEY	329,804	0.98 %
NISSAN AUTO RECEIVABLES OWNER TRUST	318,250	0.95 %
VOLKSWAGEN AUTO LOAN ENHANCED TRUST	313,243	0.93 %
CAPITAL ONE FINANCIAL CORP	310,359	0.93 %
BA CREDIT CARD TRUST	268,119	0.80 %
FORD CREDIT AUTO OWNER TRUST	267,653	0.80 %
VERIZON MASTER TRUST	267,201	0.80 %
JPMORGAN CHASE & CO	262,462	0.78 %

Issuer	Market Value ($)	% of Portfolio
WELLS FARGO & CO	254,761	0.76 %
PACCAR INC	254,490	0.76 %
ANALOG DEVICES INC	253,187	0.76 %
CISCO SYSTEMS INC	251,403	0.75 %
NATIONAL RURAL UTILITIES COOPERATIVE FI	233,051	0.70 %
ADOBE INC	231,067	0.69 %
DEERE & CO	231,055	0.69 %
HOME DEPOT INC	230,414	0.69 %
TOYOTA MOTOR CORP	229,125	0.68 %
HONDA MOTOR CO LTD	226,181	0.67 %
UNITEDHEALTH GROUP INC	220,951	0.66 %
CATERPILLAR INC	219,059	0.65 %
AIR PRODUCTS AND CHEMICALS INC	208,691	0.62 %
BMW VEHICLE LEASE TRUST	176,625	0.53 %
WALMART INC	155,557	0.46 %
GM FINANCIAL CONSUMER AUTOMOBILE RECEIV	146,039	0.44 %
STATE STREET CORP	123,194	0.37 %
STATE OF CALIFORNIA	121,649	0.36 %
ALLY AUTO RECEIVABLES TRUST	105,253	0.31 %
MERCK & CO INC	90,491	0.27 %
CALIFORNIA STATE UNIVERSITY	79,788	0.24 %
TEXAS INSTRUMENTS INC	50,861	0.15 %
HARLEY-DAVIDSON INC	45,391	0.14 %
TARGET CORP	39,051	0.12 %
LOCKHEED MARTIN CORP	35,393	0.11 %
Grand Total	**33,530,999**	**100.00 %**

Managed Account Detail of Securities Held

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
U.S. Treasury											
US TREASURY N/B DTD 12/31/2020 0.375% 12/31/2025	91282CBC4	450,000.00	AA+	Aa1	8/3/2021	8/5/2021	446,167.97	0.57	426.46	449,783.27	445,944.60
US TREASURY N/B DTD 12/31/2020 0.375% 12/31/2025	91282CBC4	125,000.00	AA+	Aa1	7/1/2021	7/7/2021	122,543.95	0.82	118.46	124,863.55	123,873.50
US TREASURY N/B DTD 12/31/2020 0.375% 12/31/2025	91282CBC4	250,000.00	AA+	Aa1	12/2/2021	12/6/2021	242,480.47	1.13	236.92	249,539.52	247,747.00
US TREASURY N/B DTD 04/30/2021 0.750% 04/30/2026	91282CBW0	300,000.00	AA+	Aa1	1/4/2022	1/6/2022	292,687.50	1.33	941.58	299,020.36	294,745.20
US TREASURY N/B DTD 04/30/2021 0.750% 04/30/2026	91282CBW0	75,000.00	AA+	Aa1	2/10/2022	2/14/2022	71,458.01	1.92	235.39	74,513.44	73,686.30
US TREASURY N/B DTD 08/02/2021 0.625% 07/31/2026	91282CCP4	175,000.00	AA+	Aa1	6/2/2022	6/6/2022	159,256.84	2.94	184.27	171,853.44	170,518.43
US TREASURY N/B DTD 08/02/2021 0.625% 07/31/2026	91282CCP4	750,000.00	AA+	Aa1	8/8/2022	8/15/2022	682,968.75	3.04	789.74	735,954.03	730,793.25
US TREASURY N/B DTD 08/02/2021 0.625% 07/31/2026	91282CCP4	575,000.00	AA+	Aa1	8/1/2022	8/4/2022	529,359.38	2.74	605.47	565,508.51	560,274.83
US TREASURY N/B DTD 08/02/2021 0.625% 07/31/2026	91282CCP4	425,000.00	AA+	Aa1	7/5/2022	7/8/2022	389,057.62	2.84	447.52	417,661.36	414,116.18
US TREASURY N/B DTD 11/15/2016 2.000% 11/15/2026	912828U24	350,000.00	AA+	Aa1	11/1/2022	11/4/2022	319,402.34	4.39	2,644.02	341,477.55	343,410.20
US TREASURY N/B DTD 11/15/2016 2.000% 11/15/2026	912828U24	225,000.00	AA+	Aa1	10/5/2022	10/11/2022	207,369.14	4.10	1,699.73	220,168.01	220,763.70
US TREASURY N/B DTD 11/15/2016 2.000% 11/15/2026	912828U24	600,000.00	AA+	Aa1	12/5/2022	12/7/2022	558,304.69	3.92	4,532.61	588,120.17	588,703.20
US TREASURY N/B DTD 11/15/2016 2.000% 11/15/2026	912828U24	500,000.00	AA+	Aa1	1/4/2023	1/6/2023	465,175.78	3.96	3,777.17	489,866.62	490,586.00
US TREASURY N/B DTD 05/02/2022 2.750% 04/30/2027	91282CEN7	875,000.00	AA+	Aa1	1/31/2023	2/3/2023	842,495.12	3.70	10,069.63	862,897.34	862,934.63
US TREASURY N/B DTD 08/01/2022 2.750% 07/31/2027	91282CFB2	700,000.00	AA+	Aa1	5/1/2023	5/5/2023	676,347.66	3.62	3,243.21	689,793.43	689,062.50

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
U.S. Treasury											
US TREASURY N/B DTD 08/01/2022 2.750% 07/31/2027	91282CFB2	200,000.00	AA+	Aa1	9/11/2023	9/15/2023	187,343.75	4.55	926.63	194,025.18	196,875.00
US TREASURY N/B DTD 08/01/2022 2.750% 07/31/2027	91282CFB2	350,000.00	AA+	Aa1	7/3/2023	7/7/2023	329,957.03	4.30	1,621.60	340,984.04	344,531.25
US TREASURY N/B DTD 08/01/2022 2.750% 07/31/2027	91282CFB2	450,000.00	AA+	Aa1	6/2/2023	6/6/2023	429,152.34	3.97	2,084.92	440,813.83	442,968.75
US TREASURY N/B DTD 08/01/2022 2.750% 07/31/2027	91282CFB2	575,000.00	AA+	Aa1	3/2/2023	3/6/2023	536,569.33	4.44	2,664.06	559,035.02	566,015.63
US TREASURY N/B DTD 11/30/2022 3.875% 11/30/2027	91282CFZ9	275,000.00	AA+	Aa1	1/2/2024	1/5/2024	273,947.27	3.98	3,581.20	274,416.38	276,450.08
US TREASURY N/B DTD 02/28/2023 4.000% 02/29/2028	91282CGP0	325,000.00	AA+	Aa1	3/1/2024	3/6/2024	321,458.01	4.30	1,113.26	322,855.33	327,869.10
US TREASURY N/B DTD 02/28/2023 4.000% 02/29/2028	91282CGP0	275,000.00	AA+	Aa1	5/1/2024	5/6/2024	267,523.44	4.79	941.99	270,116.94	277,427.70
US TREASURY N/B DTD 02/28/2023 4.000% 02/29/2028	91282CGP0	225,000.00	AA+	Aa1	2/2/2024	2/6/2024	225,940.43	3.89	770.72	225,558.30	226,986.30
US TREASURY N/B DTD 06/30/2021 1.250% 06/30/2028	91282CCH2	300,000.00	AA+	Aa1	7/1/2024	7/3/2024	264,855.47	4.49	947.69	275,163.86	281,496.00
US TREASURY N/B DTD 06/30/2021 1.250% 06/30/2028	91282CCH2	300,000.00	AA+	Aa1	8/1/2024	8/5/2024	270,914.06	3.96	947.69	279,069.51	281,496.00
US TREASURY N/B DTD 06/30/2021 1.250% 06/30/2028	91282CCH2	650,000.00	AA+	Aa1	6/6/2024	6/11/2024	574,970.70	4.39	2,053.33	597,725.38	609,908.00
US TREASURY N/B DTD 06/30/2021 1.250% 06/30/2028	91282CCH2	400,000.00	AA+	Aa1	9/4/2024	9/6/2024	366,859.38	3.59	1,263.59	375,689.97	375,328.00
US TREASURY N/B DTD 01/02/2024 3.750% 12/31/2028	91282CJR3	275,000.00	AA+	Aa1	10/31/2024	11/5/2024	270,896.48	4.14	2,606.15	271,733.29	275,870.10
US TREASURY N/B DTD 01/02/2024 3.750% 12/31/2028	91282CJR3	450,000.00	AA+	Aa1	1/2/2025	1/7/2025	440,068.36	4.36	4,264.61	441,776.17	451,423.80
US TREASURY N/B DTD 01/02/2024 3.750% 12/31/2028	91282CJR3	800,000.00	AA+	Aa1	12/3/2024	12/6/2024	789,468.75	4.10	7,581.52	791,458.04	802,531.20
US TREASURY N/B DTD 06/30/2022 3.250% 06/30/2029	91282CEV9	200,000.00	AA+	Aa1	4/1/2025	4/4/2025	195,203.13	3.87	1,642.66	195,722.47	197,007.80
US TREASURY N/B DTD 06/30/2022 3.250% 06/30/2029	91282CEV9	875,000.00	AA+	Aa1	9/2/2025	9/5/2025	861,909.18	3.67	7,186.65	862,137.83	861,909.13

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
U.S. Treasury											
US TREASURY N/B DTD 06/30/2022 3.250% 06/30/2029	91282CEV9	100,000.00	AA+	Aa1	7/1/2025	7/3/2025	98,175.78	3.75	821.33	98,280.66	98,503.90
US TREASURY N/B DTD 06/30/2022 3.250% 06/30/2029	91282CEV9	800,000.00	AA+	Aa1	3/3/2025	3/6/2025	774,375.00	4.06	6,570.65	777,525.29	788,031.20
US TREASURY N/B DTD 06/30/2022 3.250% 06/30/2029	91282CEV9	675,000.00	AA+	Aa1	8/1/2025	8/5/2025	658,388.67	3.94	5,543.99	659,003.75	664,901.33
Security Type Sub-Total		**14,875,000.00**					**14,143,051.78**	**3.65**	**85,086.42**	**14,534,111.84**	**14,604,689.79**
Negotiable CD											
TORONTO DOMINION BANK NY DTD 10/31/2022 5.600% 10/27/2025	89115B6K1	425,000.00	A-	A2	10/27/2022	10/31/2022	425,000.00	5.60	22,543.89	425,000.00	425,418.20
NORDEA BANK ABP NEW YORK DTD 11/03/2022 5.530% 11/03/2025	65558UYF3	425,000.00	A-1+	P-1	11/2/2022	11/3/2022	425,000.00	5.53	9,662.14	425,000.00	425,267.75
Security Type Sub-Total		**850,000.00**					**850,000.00**	**5.57**	**32,206.03**	**850,000.00**	**850,685.95**
Municipal											
CALIFORNIA ST UNIV-B DTD 07/29/2021 0.862% 11/01/2025	13077DQD7	80,000.00	AA-	Aa2	7/9/2021	7/29/2021	80,000.00	0.86	287.33	80,000.00	79,788.00
CA ST DTD 03/15/2023 4.846% 03/01/2027	13063D3N6	120,000.00	AA-	Aa2	3/9/2023	3/15/2023	120,000.00	4.85	484.60	120,000.00	121,649.16
Security Type Sub-Total		**200,000.00**					**200,000.00**	**3.27**	**771.93**	**200,000.00**	**201,437.16**
Federal Agency											
FANNIE MAE DTD 11/12/2020 0.500% 11/07/2025	3135G06G3	325,000.00	AA+	Aa1	11/9/2020	11/12/2020	323,836.50	0.57	650.00	324,976.67	323,793.60
Security Type Sub-Total		**325,000.00**					**323,836.50**	**0.57**	**650.00**	**324,976.67**	**323,793.60**

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Corporate											
UNITEDHEALTH GROUP INC (CALLABLE) DTD 05/19/2021 1.150% 05/15/2026	91324PEC2	225,000.00	A+	A2	5/17/2021	5/19/2021	224,608.50	1.19	977.50	224,951.17	220,951.13
CATERPILLAR FINL SERVICE DTD 01/10/2022 1.700% 01/08/2027	14913R2U0	225,000.00	A	A2	1/11/2022	1/13/2022	223,863.75	1.81	881.88	224,710.72	219,058.88
TARGET CORP (CALLABLE) DTD 01/24/2022 1.950% 01/15/2027	87612EBM7	40,000.00	A	A2	1/19/2022	1/24/2022	39,932.00	1.99	164.67	39,982.38	39,050.64
BANK OF NY MELLON CORP (CALLABLE) DTD 01/26/2022 2.050% 01/26/2027	06406RBA4	450,000.00	A	Aa3	1/26/2022	1/28/2022	449,001.00	2.10	1,665.63	449,736.08	439,409.25
MICROSOFT CORP (CALLABLE) DTD 02/06/2017 3.300% 02/06/2027	594918BY9	450,000.00	AAA	Aaa	3/14/2023	3/17/2023	433,165.50	4.36	2,268.75	444,163.88	447,331.95
BERKSHIRE HATHAWAY FIN (CALLABLE) DTD 03/15/2022 2.300% 03/15/2027	084664CZ2	450,000.00	AA	Aa2	3/15/2022	3/17/2022	441,558.00	2.70	460.00	447,539.71	440,634.15
TEXAS INSTRUMENTS INC (CALLABLE) DTD 11/18/2022 4.600% 02/15/2028	882508BV5	50,000.00	A+	Aa3	5/11/2023	5/18/2023	51,202.00	4.04	293.89	50,590.61	50,861.05
WALMART INC (CALLABLE) DTD 04/18/2023 3.900% 04/15/2028	931142FB4	155,000.00	AA	Aa2	4/12/2023	4/18/2023	154,714.80	3.94	2,787.42	154,854.94	155,556.76
LOCKHEED MARTIN CORP (CALLABLE) DTD 05/25/2023 4.450% 05/15/2028	539830BZ1	35,000.00	A-	A2	5/23/2023	5/25/2023	34,937.00	4.49	588.39	34,966.78	35,392.63
MERCK & CO INC (CALLABLE) DTD 05/17/2023 4.050% 05/17/2028	58933YBH7	90,000.00	A+	Aa3	5/8/2023	5/17/2023	89,927.10	4.07	1,356.75	89,961.69	90,490.86
JOHN DEERE CAPITAL CORP DTD 07/14/2023 4.950% 07/14/2028	24422EXB0	225,000.00	A	A1	7/21/2023	7/25/2023	226,719.00	4.78	2,382.19	225,963.75	231,055.20
MORGAN STANLEY BANK NA (CALLABLE) DTD 07/19/2024 4.968% 07/14/2028	61690U8E3	325,000.00	A+	Aa3	7/18/2024	7/19/2024	325,325.00	4.94	3,453.45	325,200.30	329,804.48
CITIBANK NA (CALLABLE) DTD 09/29/2023 5.803% 09/29/2028	17325FBB3	450,000.00	A+	Aa3	10/2/2023	10/4/2023	447,768.00	5.92	145.08	448,583.00	472,007.70
TOYOTA MOTOR CREDIT CORP DTD 01/05/2024 4.650% 01/05/2029	89236TLL7	130,000.00	A+	A1	1/2/2024	1/5/2024	129,821.90	4.68	1,444.08	129,879.47	132,383.42

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Corporate											
TOYOTA MOTOR CREDIT CORP DTD 01/05/2024 4.650% 01/05/2029	89236TLL7	95,000.00	A+	A1	1/3/2024	1/5/2024	94,874.60	4.68	1,055.29	94,915.04	96,741.73
AIR PRODUCTS & CHEMICALS (CALLABLE) DTD 02/08/2024 4.600% 02/08/2029	009158BH8	205,000.00	A	A2	2/6/2024	2/8/2024	204,727.35	4.63	1,388.31	204,810.46	208,691.03
CISCO SYSTEMS INC (CALLABLE) DTD 02/26/2024 4.850% 02/26/2029	17275RBR2	245,000.00	AA-	A1	2/21/2024	2/26/2024	244,914.25	4.86	1,155.24	244,939.98	251,402.59
BLACKROCK FUNDING INC (CALLABLE) DTD 03/14/2024 4.700% 03/14/2029	09290DAA9	30,000.00	AA-	Aa3	3/5/2024	3/14/2024	29,945.70	4.74	66.58	29,961.25	30,686.61
BLACKROCK FUNDING INC (CALLABLE) DTD 03/14/2024 4.700% 03/14/2029	09290DAA9	420,000.00	AA-	Aa3	3/6/2024	3/14/2024	420,205.80	4.69	932.17	420,148.34	429,612.54
ADOBE INC (CALLABLE) DTD 04/04/2024 4.800% 04/04/2029	00724PAF6	125,000.00	A+	A1	4/1/2024	4/4/2024	124,813.75	4.83	2,950.00	124,864.75	128,370.50
ADOBE INC (CALLABLE) DTD 04/04/2024 4.800% 04/04/2029	00724PAF6	100,000.00	A+	A1	4/2/2024	4/4/2024	99,868.00	4.83	2,360.00	99,904.24	102,696.40
WELLS FARGO & COMPANY (CALLABLE) DTD 04/23/2025 4.970% 04/23/2029	95000U3T8	180,000.00	BBB+	A1	4/15/2025	4/23/2025	180,000.00	4.97	3,926.30	180,000.00	183,427.56
WELLS FARGO & COMPANY (CALLABLE) DTD 04/23/2025 4.970% 04/23/2029	95000U3T8	70,000.00	BBB+	A1	4/16/2025	4/23/2025	70,056.00	4.95	1,526.89	70,048.43	71,332.94
AMERICAN EXPRESS CO (CALLABLE) DTD 04/25/2025 4.731% 04/25/2029	025816ED7	140,000.00	A-	A2	4/21/2025	4/25/2025	140,000.00	4.73	2,870.14	140,000.00	142,206.26
AMERICAN EXPRESS CO (CALLABLE) DTD 04/25/2025 4.731% 04/25/2029	025816ED7	110,000.00	A-	A2	4/22/2025	4/25/2025	110,000.00	4.73	2,255.11	110,000.00	111,733.49
BANK OF AMERICA CORP (CALLABLE) DTD 05/09/2025 4.623% 05/09/2029	06051GMT3	500,000.00	A-	A1	5/6/2025	5/9/2025	500,000.00	4.62	9,117.58	500,000.00	506,194.50
NATIONAL RURAL UTIL COOP (CALLABLE) DTD 05/10/2024 5.150% 06/15/2029	63743HFS6	135,000.00	A-	A2	9/9/2024	9/16/2024	140,300.10	4.23	2,047.13	139,205.23	139,830.71
NATIONAL RURAL UTIL COOP (CALLABLE) DTD 05/10/2024 5.150% 06/15/2029	63743HFS6	90,000.00	A-	A2	9/9/2024	9/16/2024	93,486.60	4.24	1,364.75	92,766.29	93,220.47

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Corporate											
HOME DEPOT INC (CALLABLE) DTD 06/25/2024 4.750% 06/25/2029	437076DC3	150,000.00	A	A2	6/18/2024	6/25/2024	149,176.50	4.88	1,900.00	149,367.24	153,609.60
HOME DEPOT INC (CALLABLE) DTD 06/25/2024 4.750% 06/25/2029	437076DC3	75,000.00	A	A2	6/17/2024	6/25/2024	74,516.25	4.90	950.00	74,628.10	76,804.80
AMERICAN HONDA FINANCE DTD 09/05/2024 4.400% 09/05/2029	02665WFQ9	225,000.00	A-	A3	9/3/2024	9/5/2024	224,730.00	4.43	715.00	224,783.20	226,180.58
STATE STREET CORP (CALLABLE) DTD 04/24/2025 4.834% 04/24/2030	857477DB6	120,000.00	A	Aa3	4/22/2025	4/24/2025	120,000.00	4.83	2,529.79	120,000.00	123,193.56
PACCAR FINANCIAL CORP DTD 05/08/2025 4.550% 05/08/2030	69371RT71	250,000.00	A+	A1	5/5/2025	5/8/2025	249,612.50	4.59	4,518.40	249,640.67	254,490.25
ANALOG DEVICES INC (CALLABLE) DTD 06/16/2025 4.500% 06/15/2030	032654BE4	250,000.00	A-	A2	6/12/2025	6/16/2025	249,780.00	4.52	3,281.25	249,792.33	253,186.75
Security Type Sub-Total		**6,815,000.00**					**6,793,550.95**	**4.21**	**65,779.61**	**6,810,860.03**	**6,887,600.97**
Agency CMBS											
FHMS K054 A2 DTD 04/01/2016 2.745% 01/01/2026	3137BNGT5	127,944.50	AA+	Aa1	4/11/2023	4/14/2023	122,646.79	4.32	292.67	127,341.16	127,223.40
FHMS K058 A2 DTD 11/01/2016 2.653% 08/01/2026	3137BSP72	325,000.00	AA+	Aa1	4/6/2023	4/12/2023	311,314.45	3.98	718.52	321,344.50	321,170.20
FHMS K061 A2 DTD 01/01/2017 3.347% 11/01/2026	3137BTUM1	196,374.98	AA+	Aa1	5/19/2023	5/24/2023	190,330.31	4.29	547.72	194,390.44	194,420.06
FHMS K064 A2 DTD 05/01/2017 3.224% 03/01/2027	3137BXQY1	300,000.00	AA+	Aa1	8/16/2023	8/18/2023	282,984.37	4.94	806.00	292,994.34	297,010.20
FHMS K065 A2 DTD 07/01/2017 3.243% 04/01/2027	3137F1G44	300,000.00	AA+	Aa1	6/8/2023	6/13/2023	287,472.66	4.42	810.75	294,924.27	296,820.60
FHMS KJ48 A1 DTD 12/01/2023 4.858% 05/01/2028	3137HBC69	229,124.73	AA+	Aa1	12/6/2023	12/14/2023	229,122.89	4.86	927.57	229,123.59	232,938.28
FHMS KJ46 A1 DTD 07/01/2023 4.777% 06/01/2028	3137HAD45	235,497.15	AA+	Aa1	7/19/2023	7/27/2023	235,491.23	4.78	937.47	235,493.86	237,508.29
FHMS K505 A2 DTD 07/01/2023 4.819% 06/01/2028	3137HACX2	300,000.00	AA+	Aa1	7/13/2023	7/20/2023	302,996.40	4.59	1,204.75	301,661.10	305,639.10
FNA 2023-M6 A2 DTD 07/01/2023 4.181% 07/01/2028	3136BQDE6	286,456.73	AA+	Aa1	7/18/2023	7/31/2023	281,600.40	4.58	998.18	283,711.85	286,997.28

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Agency CMBS											
FHMS K508 A2 DTD 10/01/2023 4.740% 08/01/2028	3137HAQ74	300,000.00	AA+	Aa1	10/11/2023	10/19/2023	293,419.20	5.25	1,185.00	295,857.06	305,795.10
FHMS K506 A2 DTD 09/01/2023 4.650% 08/01/2028	3137HAMH6	450,000.00	AA+	Aa1	9/7/2023	9/14/2023	443,343.15	4.99	1,743.75	445,891.44	457,070.40
FHMS K509 A2 DTD 10/01/2023 4.850% 09/01/2028	3137HAST4	225,000.00	AA+	Aa1	10/25/2023	10/31/2023	217,826.33	5.60	909.38	220,322.27	230,166.90
FHMS K507 A2 DTD 09/01/2023 4.800% 09/01/2028	3137HAMS2	300,000.00	AA+	Aa1	9/20/2023	9/28/2023	296,414.10	5.07	1,200.00	297,710.34	305,955.60
FHMS K510 A2 DTD 11/01/2023 5.069% 10/01/2028	3137HB3D4	110,000.00	AA+	Aa1	11/14/2023	11/21/2023	109,681.99	5.14	464.66	109,792.44	112,973.30
FHMS K511 A2 DTD 12/01/2023 4.860% 10/01/2028	3137HB3G7	165,000.00	AA+	Aa1	11/28/2023	12/7/2023	164,525.96	4.93	668.25	164,688.60	168,754.25
FHMS K514 A2 DTD 02/01/2024 4.572% 12/01/2028	3137HBLV4	185,000.00	AA+	Aa1	2/1/2024	2/8/2024	186,849.82	4.34	704.85	186,271.27	187,708.77
FHMS K520 A2 DTD 04/01/2024 5.180% 03/01/2029	3137HCKV3	185,000.00	AA+	Aa1	4/23/2024	4/30/2024	185,750.92	5.09	798.58	185,561.81	191,371.96
FHMS K524 A2 DTD 07/01/2024 4.720% 05/01/2029	3137HDV56	240,000.00	AA+	Aa1	7/16/2024	7/25/2024	241,473.84	4.58	944.00	241,162.12	245,257.44
FHMS K522 A2 DTD 06/01/2024 4.803% 05/01/2029	3137HDJJ0	292,306.29	AA+	Aa1	6/5/2024	6/13/2024	292,305.42	4.80	1,169.96	292,306.29	299,187.77
FHMS K526 A2 DTD 08/01/2024 4.543% 07/01/2029	3137HDXL9	270,000.00	AA+	Aa1	8/7/2024	8/15/2024	272,525.58	4.33	1,022.18	271,998.31	274,574.61
FHMS K539 A2 DTD 04/01/2025 4.410% 01/01/2030	3137HKXJ8	120,000.00	AA+	Aa1	4/15/2025	4/24/2025	119,995.80	4.41	441.00	119,996.22	121,525.80
Security Type Sub-Total		**5,142,704.38**					**5,068,071.61**	**4.74**	**18,495.24**	**5,112,543.28**	**5,200,069.31**
ABS											
HDMOT 2023-A A3 DTD 02/23/2023 5.050% 12/15/2027	41285JAD0	45,240.36	NR	Aaa	2/13/2023	2/23/2023	45,235.80	5.05	101.54	45,238.27	45,390.83
HAROT 2024-1 A3 DTD 02/21/2024 5.210% 08/15/2028	437918AC9	178,964.09	AAA	Aaa	2/13/2024	2/21/2024	178,956.31	5.21	414.40	178,959.33	180,655.84
AMXCA 2023-3 A DTD 09/19/2023 5.230% 09/15/2028	02582JKD1	245,000.00	AAA	NR	9/12/2023	9/19/2023	244,989.05	5.23	569.49	244,993.30	248,189.90

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
ABS											
BACCT 2023-A2 A2 DTD 12/14/2023 4.980% 11/15/2028	05522RDH8	105,000.00	NR	Aaa	12/7/2023	12/14/2023	104,985.90	4.98	232.40	104,990.91	106,288.45
CHAIT 2024-A1 A DTD 01/31/2024 4.600% 01/15/2029	161571HV9	260,000.00	AAA	NR	1/24/2024	1/31/2024	259,960.40	4.60	531.56	259,973.07	262,461.68
NAROT 2024-B A3 DTD 10/23/2024 4.340% 03/15/2029	65479WAD6	70,000.00	NR	Aaa	10/16/2024	10/23/2024	69,993.53	4.34	135.02	69,994.84	70,327.25
AMXCA 2024-1 A DTD 04/23/2024 5.230% 04/16/2029	02582JKH2	270,000.00	AAA	NR	4/16/2024	4/23/2024	269,944.65	5.23	627.60	269,944.65	275,579.82
HART 2024-C A3 DTD 10/16/2024 4.410% 05/15/2029	448976AD2	115,000.00	AAA	NR	10/8/2024	10/16/2024	114,991.58	4.41	225.40	114,993.47	115,875.27
HAROT 2024-4 A3 DTD 10/24/2024 4.330% 05/15/2029	43816DAC9	90,000.00	AAA	Aaa	10/16/2024	10/24/2024	89,987.27	4.33	173.20	89,989.76	90,489.24
TAOT 2024-D A3 DTD 10/17/2024 4.400% 06/15/2029	89239TAD4	65,000.00	AAA	Aaa	10/10/2024	10/17/2024	64,996.37	4.40	127.11	64,997.12	65,443.76
ALLYA 2024-2 A3 DTD 09/27/2024 4.140% 07/16/2029	02007NAC2	105,000.00	AAA	NR	9/24/2024	9/27/2024	104,989.14	4.14	193.20	104,991.54	105,253.37
VALET 2024-1 A3 DTD 11/26/2024 4.630% 07/20/2029	92868RAD0	90,000.00	AAA	Aaa	11/19/2024	11/26/2024	89,991.52	4.63	127.33	89,993.11	91,039.77
TAOT 2025-A A3 DTD 01/29/2025 4.640% 08/15/2029	89240JAD3	160,000.00	NR	Aaa	1/22/2025	1/29/2025	159,993.58	4.64	329.96	159,994.91	162,026.08
GMCAR 2024-4 A3 DTD 10/16/2024 4.400% 08/16/2029	38014AAD3	90,000.00	AAA	Aaa	10/8/2024	10/16/2024	89,982.67	4.40	165.00	89,985.92	90,619.56
VALET 2025-1 A3 DTD 03/25/2025 4.500% 08/20/2029	92868MAD1	220,000.00	NR	Aaa	3/18/2025	3/25/2025	219,992.52	4.50	302.50	219,993.74	222,203.52
COMET 2024-A1 A DTD 09/24/2024 3.920% 09/15/2029	14041NGE5	310,000.00	AAA	NR	9/17/2024	9/24/2024	309,939.49	3.92	540.09	309,951.23	310,358.67
HAROT 2025-1 A3 DTD 02/11/2025 4.570% 09/21/2029	43814VAC1	250,000.00	AAA	NR	2/4/2025	2/11/2025	249,992.30	4.57	317.36	249,993.65	252,742.00
BMWOT 2025-A A3 DTD 02/12/2025 4.560% 09/25/2029	096924AD7	175,000.00	AAA	Aaa	2/4/2025	2/12/2025	174,982.76	4.56	133.00	174,985.36	176,624.52
FORDO 2025-A A3 DTD 03/25/2025 4.450% 10/15/2029	34535KAD0	265,000.00	AAA	Aaa	3/18/2025	3/25/2025	264,974.24	4.45	524.11	264,977.51	267,652.65
HART 2025-A A3 DTD 03/12/2025 4.320% 10/15/2029	44935CAD3	215,000.00	AAA	NR	3/4/2025	3/12/2025	214,968.29	4.32	412.80	214,972.16	216,642.17

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
ABS											
HAROT 2025-2 A3 DTD 05/08/2025 4.150% 10/15/2029	437921AD1	75,000.00	NR	Aaa	4/29/2025	5/8/2025	74,991.62	4.15	138.33	74,992.48	75,258.38
WFCIT 2024-A2 A DTD 10/24/2024 4.290% 10/15/2029	92970QAE5	165,000.00	AAA	Aaa	10/17/2024	10/24/2024	164,975.48	4.29	314.60	164,979.84	166,363.07
TAOT 2025-B A3 DTD 04/30/2025 4.340% 11/15/2029	89231HAD8	130,000.00	AAA	NR	4/24/2025	4/30/2025	129,992.55	4.34	250.76	129,993.63	131,059.37
AMXCA 2025-1 A DTD 02/11/2025 4.560% 12/17/2029	02582JKM1	330,000.00	AAA	NR	2/4/2025	2/11/2025	329,926.71	4.57	668.80	329,935.63	334,848.69
NAROT 2025-A A3 DTD 05/27/2025 4.490% 12/17/2029	65481GAD7	245,000.00	NR	Aaa	5/20/2025	5/27/2025	244,952.96	4.49	488.91	244,956.84	247,923.10
VZMT 2025-3 A1A DTD 03/31/2025 4.510% 03/20/2030	92348KDY6	265,000.00	NR	Aaa	3/25/2025	3/31/2025	264,988.61	4.51	365.18	264,990.36	267,201.35
GMCAR 2025-2 A3 DTD 05/14/2025 4.280% 04/16/2030	362549AD9	55,000.00	AAA	Aaa	5/6/2025	5/14/2025	54,991.90	4.28	98.08	54,992.52	55,419.05
WFCIT 2025-A1 A DTD 06/10/2025 4.340% 05/15/2030	92970QAJ4	310,000.00	AAA	NR	6/3/2025	6/10/2025	309,994.85	4.34	597.96	309,996.11	313,312.97
BACCT 2025-A1 A DTD 06/12/2025 4.310% 05/15/2030	05522RDK1	160,000.00	AAA	NR	6/5/2025	6/12/2025	159,999.39	4.31	306.49	160,000.00	161,830.88
CCCIT 2025-A1 A DTD 06/26/2025 4.300% 06/21/2030	17305EHA6	350,000.00	AAA	Aaa	6/18/2025	6/26/2025	349,905.05	4.31	3,971.53	349,909.66	353,641.40
Security Type Sub-Total		**5,409,204.45**					**5,408,566.49**	**4.53**	**13,383.71**	**5,408,660.92**	**5,462,722.61**
Managed Account Sub Total		**33,616,908.83**					**32,787,077.33**	**4.09**	**216,372.94**	**33,241,152.74**	**33,530,999.39**
Securities Sub Total		**$33,616,908.83**					**$32,787,077.33**	**4.09%**	**$216,372.94**	**$33,241,152.74**	**$33,530,999.39**
Accrued Interest											**$216,372.94**
Total Investments											**$33,747,372.33**

Quarterly Portfolio Transactions

Trade Date	Settle Date	Par ($)	CUSIP	Security Description	Coupon	Maturity Date	Transact Amount ($)	Yield at Market	Realized G/L (BV)
BUY									
7/1/2025	7/3/2025	100,000.00	91282CEV9	US TREASURY N/B	3.25%	6/30/2029	98,202.27	3.75%	
8/1/2025	8/5/2025	675,000.00	91282CEV9	US TREASURY N/B	3.25%	6/30/2029	660,534.73	3.94%	
9/2/2025	9/5/2025	875,000.00	91282CEV9	US TREASURY N/B	3.25%	6/30/2029	867,086.66	3.67%	
Total BUY		**1,650,000.00**					**1,625,823.66**		**0.00**
INTEREST									
7/1/2025	7/1/2025		341271AD6	FLORIDA ST BRD OF ADM	1.25%	7/1/2025	1,792.65		
7/1/2025	7/1/2025		MONEY0002	MONEY MARKET FUND	0.00%		649.43		
7/1/2025	7/25/2025		3137HAD45	FHMS KJ46 A1	4.77%	6/1/2028	940.49		
7/1/2025	7/25/2025		3137HBLV4	FHMS K514 A2	4.57%	12/1/2028	704.85		
7/1/2025	7/25/2025		3137HAMS2	FHMS K507 A2	4.80%	9/1/2028	1,200.00		
7/1/2025	7/25/2025		3137HACX2	FHMS K505 A2	4.81%	6/1/2028	1,204.75		
7/1/2025	7/25/2025		3137BXQY1	FHMS K064 A2	3.22%	3/1/2027	806.00		
7/1/2025	7/25/2025		3137HB3G7	FHMS K511 A2	4.86%	10/1/2028	668.25		
7/1/2025	7/25/2025		3137BNGT5	FHMS K054 A2	2.74%	1/1/2026	308.05		
7/1/2025	7/25/2025		3137HDXL9	FHMS K526 A2	4.54%	7/1/2029	1,022.17		
7/1/2025	7/25/2025		3136BQDE6	FNA 2023-M6 A2	4.18%	7/1/2028	998.48		
7/1/2025	7/25/2025		3137HAMH6	FHMS K506 A2	4.65%	8/1/2028	1,743.75		

Quarterly Portfolio Transactions

Trade Date	Settle Date	Par ($)	CUSIP	Security Description	Coupon	Maturity Date	Transact Amount ($)	Yield at Market	Realized G/L (BV)
INTEREST									
7/1/2025	7/25/2025		3137HKXJ8	FHMS K539 A2	4.41%	1/1/2030	441.00		
7/1/2025	7/25/2025		3137HB3D4	FHMS K510 A2	5.06%	10/1/2028	464.66		
7/1/2025	7/25/2025		3137F1G44	FHMS K065 A2	3.24%	4/1/2027	810.75		
7/1/2025	7/25/2025		3137HDJJ0	FHMS K522 A2	4.80%	5/1/2029	1,200.75		
7/1/2025	7/25/2025		3137HCKV3	FHMS K520 A2	5.18%	3/1/2029	798.58		
7/1/2025	7/25/2025		3137HBC69	FHMS KJ48 A1	4.85%	5/1/2028	935.31		
7/1/2025	7/25/2025		3137HAQ74	FHMS K508 A2	4.74%	8/1/2028	1,185.00		
7/1/2025	7/25/2025		3137BTUM1	FHMS K061 A2	3.34%	11/1/2026	550.55		
7/1/2025	7/25/2025		3137HDV56	FHMS K524 A2	4.72%	5/1/2029	944.00		
7/1/2025	7/25/2025		3137BSP72	FHMS K058 A2	2.65%	8/1/2026	718.52		
7/1/2025	7/25/2025		3137HAST4	FHMS K509 A2	4.85%	9/1/2028	909.38		
7/5/2025	7/5/2025		89236TLL7	TOYOTA MOTOR CREDIT CORP	4.65%	1/5/2029	5,231.25		
7/8/2025	7/8/2025		14913R2U0	CATERPILLAR FINL SERVICE	1.70%	1/8/2027	1,912.50		
7/14/2025	7/14/2025		24422EXB0	JOHN DEERE CAPITAL CORP	4.95%	7/14/2028	5,568.75		
7/14/2025	7/14/2025		61690U8E3	MORGAN STANLEY BANK NA (CALLABLE)	4.96%	7/14/2028	8,073.00		
7/15/2025	7/15/2025		14041NGE5	COMET 2024-A1 A	3.92%	9/15/2029	1,012.67		
7/15/2025	7/15/2025		41285JAD0	HDMOT 2023-A A3	5.05%	12/15/2027	260.63		

Quarterly Portfolio Transactions

Trade Date	Settle Date	Par ($)	CUSIP	Security Description	Coupon	Maturity Date	Transact Amount ($)	Yield at Market	Realized G/L (BV)
INTEREST									
7/15/2025	7/15/2025		448977AD0	HART 2022-A A3	2.22%	10/15/2026	19.92		
7/15/2025	7/15/2025		02582JKH2	AMXCA 2024-1 A	5.23%	4/16/2029	1,176.75		
7/15/2025	7/15/2025		65479WAD6	NAROT 2024-B A3	4.34%	3/15/2029	253.17		
7/15/2025	7/15/2025		161571HV9	CHAIT 2024-A1 A	4.60%	1/15/2029	996.67		
7/15/2025	7/15/2025		44935CAD3	HART 2025-A A3	4.32%	10/15/2029	774.00		
7/15/2025	7/15/2025		02582JKD1	AMXCA 2023-3 A	5.23%	9/15/2028	1,067.79		
7/15/2025	7/15/2025		43816DAC9	HAROT 2024-4 A3	4.33%	5/15/2029	324.75		
7/15/2025	7/15/2025		92970QAE5	WFCIT 2024-A2 A	4.29%	10/15/2029	589.88		
7/15/2025	7/15/2025		87612EBM7	TARGET CORP (CALLABLE)	1.95%	1/15/2027	390.00		
7/15/2025	7/15/2025		05522RDH8	BACCT 2023-A2 A2	4.98%	11/15/2028	435.75		
7/15/2025	7/15/2025		89239TAD4	TAOT 2024-D A3	4.40%	6/15/2029	238.33		
7/15/2025	7/15/2025		65481GAD7	NAROT 2025-A A3	4.49%	12/17/2029	916.71		
7/15/2025	7/15/2025		92970QAJ4	WFCIT 2025-A1 A	4.34%	5/15/2030	1,308.03		
7/15/2025	7/15/2025		02007NAC2	ALLYA 2024-2 A3	4.14%	7/16/2029	362.25		
7/15/2025	7/15/2025		437921AD1	HAROT 2025-2 A3	4.15%	10/15/2029	259.38		
7/15/2025	7/15/2025		34535KAD0	FORDO 2025-A A3	4.45%	10/15/2029	982.71		
7/15/2025	7/15/2025		02582JKM1	AMXCA 2025-1 A	4.56%	12/17/2029	1,254.00		

Quarterly Portfolio Transactions

Trade Date	Settle Date	Par ($)	CUSIP	Security Description	Coupon	Maturity Date	Transact Amount ($)	Yield at Market	Realized G/L (BV)
INTEREST									
7/15/2025	7/15/2025		89231HAD8	TAOT 2025-B A3	4.34%	11/15/2029	470.17		
7/15/2025	7/15/2025		89240JAD3	TAOT 2025-A A3	4.64%	8/15/2029	618.67		
7/15/2025	7/15/2025		437918AC9	HAROT 2024-1 A3	5.21%	8/15/2028	781.50		
7/15/2025	7/15/2025		448976AD2	HART 2024-C A3	4.41%	5/15/2029	422.63		
7/15/2025	7/15/2025		05522RDK1	BACCT 2025-A1 A	4.31%	5/15/2030	632.13		
7/16/2025	7/16/2025		38014AAD3	GMCAR 2024-4 A3	4.40%	8/16/2029	330.00		
7/16/2025	7/16/2025		362549AD9	GMCAR 2025-2 A3	4.28%	4/16/2030	196.17		
7/20/2025	7/20/2025		92868MAD1	VALET 2025-1 A3	4.50%	8/20/2029	825.00		
7/20/2025	7/20/2025		92348KDY6	VZMT 2025-3 A1A	4.51%	3/20/2030	995.96		
7/20/2025	7/20/2025		92868RAD0	VALET 2024-1 A3	4.63%	7/20/2029	347.25		
7/21/2025	7/21/2025		3137EAEU9	FREDDIE MAC	0.37%	7/21/2025	703.13		
7/21/2025	7/21/2025		43814VAC1	HAROT 2025-1 A3	4.57%	9/21/2029	952.08		
7/25/2025	7/25/2025		096924AD7	BMWOT 2025-A A3	4.56%	9/25/2029	665.00		
7/26/2025	7/26/2025		06406RBA4	BANK OF NY MELLON CORP (CALLABLE)	2.05%	1/26/2027	4,612.50		
7/27/2025	7/27/2025		459200KS9	IBM CORP	4.00%	7/27/2025	4,500.00		
7/31/2025	7/31/2025		91282CFB2	US TREASURY N/B	2.75%	7/31/2027	31,281.25		
7/31/2025	7/31/2025		91282CCP4	US TREASURY N/B	0.62%	7/31/2026	6,015.63		

Quarterly Portfolio Transactions

Trade Date	Settle Date	Par ($)	CUSIP	Security Description	Coupon	Maturity Date	Transact Amount ($)	Yield at Market	Realized G/L (BV)
INTEREST									
8/1/2025	8/25/2025		3137HACX2	FHMS K505 A2	4.81%	6/1/2028	1,204.75		
8/1/2025	8/25/2025		3137HBLV4	FHMS K514 A2	4.57%	12/1/2028	704.85		
8/1/2025	8/25/2025		3137HDJJ0	FHMS K522 A2	4.80%	5/1/2029	1,170.18		
8/1/2025	8/25/2025		3137HBC69	FHMS KJ48 A1	4.85%	5/1/2028	932.27		
8/1/2025	8/25/2025		3137HAQ74	FHMS K508 A2	4.74%	8/1/2028	1,185.00		
8/1/2025	8/25/2025		3137BSP72	FHMS K058 A2	2.65%	8/1/2026	718.52		
8/1/2025	8/25/2025		3137HAST4	FHMS K509 A2	4.85%	9/1/2028	909.38		
8/1/2025	8/25/2025		3137BXQY1	FHMS K064 A2	3.22%	3/1/2027	806.00		
8/1/2025	8/25/2025		3136BQDE6	FNA 2023-M6 A2	4.18%	7/1/2028	1,000.40		
8/1/2025	8/25/2025		3137HB3G7	FHMS K511 A2	4.86%	10/1/2028	668.25		
8/1/2025	8/25/2025		3137HB3D4	FHMS K510 A2	5.06%	10/1/2028	464.66		
8/1/2025	8/25/2025		3137HDXL9	FHMS K526 A2	4.54%	7/1/2029	1,022.17		
8/1/2025	8/25/2025		3137HCKV3	FHMS K520 A2	5.18%	3/1/2029	798.58		
8/1/2025	8/25/2025		3137HAD45	FHMS KJ46 A1	4.77%	6/1/2028	939.39		
8/1/2025	8/25/2025		3137BNGT5	FHMS K054 A2	2.74%	1/1/2026	301.13		
8/1/2025	8/25/2025		3137BTUM1	FHMS K061 A2	3.34%	11/1/2026	549.36		
8/1/2025	8/25/2025		3137HKXJ8	FHMS K539 A2	4.41%	1/1/2030	441.00		

Quarterly Portfolio Transactions

Trade Date	Settle Date	Par ($)	CUSIP	Security Description	Coupon	Maturity Date	Transact Amount ($)	Yield at Market	Realized G/L (BV)
INTEREST									
8/1/2025	8/25/2025		3137HAMS2	FHMS K507 A2	4.80%	9/1/2028	1,200.00		
8/1/2025	8/25/2025		3137HDV56	FHMS K524 A2	4.72%	5/1/2029	944.00		
8/1/2025	8/25/2025		3137HAMH6	FHMS K506 A2	4.65%	8/1/2028	1,743.75		
8/1/2025	8/25/2025		3137F1G44	FHMS K065 A2	3.24%	4/1/2027	810.75		
8/1/2025	8/1/2025		60412AK85	MINNESOTA ST-F-UNREF	0.63%	8/1/2025	315.00		
8/1/2025	8/1/2025		MONEY0002	MONEY MARKET FUND	0.00%		1,695.60		
8/6/2025	8/6/2025		594918BY9	MICROSOFT CORP (CALLABLE)	3.30%	2/6/2027	7,425.00		
8/8/2025	8/8/2025		009158BH8	AIR PRODUCTS & CHEMICALS (CALLABLE)	4.60%	2/8/2029	4,715.00		
8/15/2025	8/15/2025		44935CAD3	HART 2025-A A3	4.32%	10/15/2029	774.00		
8/15/2025	8/15/2025		65481GAD7	NAROT 2025-A A3	4.49%	12/17/2029	916.71		
8/15/2025	8/15/2025		882508BV5	TEXAS INSTRUMENTS INC (CALLABLE)	4.60%	2/15/2028	1,150.00		
8/15/2025	8/15/2025		89240JAD3	TAOT 2025-A A3	4.64%	8/15/2029	618.67		
8/15/2025	8/15/2025		437918AC9	HAROT 2024-1 A3	5.21%	8/15/2028	781.50		
8/15/2025	8/15/2025		448977AD0	HART 2022-A A3	2.22%	10/15/2026	8.09		
8/15/2025	8/15/2025		41285JAD0	HDMOT 2023-A A3	5.05%	12/15/2027	237.58		
8/15/2025	8/15/2025		448976AD2	HART 2024-C A3	4.41%	5/15/2029	422.63		
8/15/2025	8/15/2025		02007NAC2	ALLYA 2024-2 A3	4.14%	7/16/2029	362.25		

Quarterly Portfolio Transactions

Trade Date	Settle Date	Par ($)	CUSIP	Security Description	Coupon	Maturity Date	Transact Amount ($)	Yield at Market	Realized G/L (BV)
INTEREST									
8/15/2025	8/15/2025		92970QAE5	WFCIT 2024-A2 A	4.29%	10/15/2029	589.88		
8/15/2025	8/15/2025		161571HV9	CHAIT 2024-A1 A	4.60%	1/15/2029	996.67		
8/15/2025	8/15/2025		89231HAD8	TAOT 2025-B A3	4.34%	11/15/2029	470.17		
8/15/2025	8/15/2025		65479WAD6	NAROT 2024-B A3	4.34%	3/15/2029	253.17		
8/15/2025	8/15/2025		02582JKH2	AMXCA 2024-1 A	5.23%	4/16/2029	1,176.75		
8/15/2025	8/15/2025		02582JKM1	AMXCA 2025-1 A	4.56%	12/17/2029	1,254.00		
8/15/2025	8/15/2025		14041NGE5	COMET 2024-A1 A	3.92%	9/15/2029	1,012.67		
8/15/2025	8/15/2025		05522RDH8	BACCT 2023-A2 A2	4.98%	11/15/2028	435.75		
8/15/2025	8/15/2025		89239TAD4	TAOT 2024-D A3	4.40%	6/15/2029	238.33		
8/15/2025	8/15/2025		92970QAJ4	WFCIT 2025-A1 A	4.34%	5/15/2030	1,121.17		
8/15/2025	8/15/2025		34535KAD0	FORDO 2025-A A3	4.45%	10/15/2029	982.71		
8/15/2025	8/15/2025		43816DAC9	HAROT 2024-4 A3	4.33%	5/15/2029	324.75		
8/15/2025	8/15/2025		437921AD1	HAROT 2025-2 A3	4.15%	10/15/2029	259.37		
8/15/2025	8/15/2025		05522RDK1	BACCT 2025-A1 A	4.31%	5/15/2030	574.67		
8/15/2025	8/15/2025		02582JKD1	AMXCA 2023-3 A	5.23%	9/15/2028	1,067.79		
8/16/2025	8/16/2025		38014AAD3	GMCAR 2024-4 A3	4.40%	8/16/2029	330.00		
8/16/2025	8/16/2025		362549AD9	GMCAR 2025-2 A3	4.28%	4/16/2030	196.17		

Quarterly Portfolio Transactions

Trade Date	Settle Date	Par ($)	CUSIP	Security Description	Coupon	Maturity Date	Transact Amount ($)	Yield at Market	Realized G/L (BV)
INTEREST									
8/20/2025	8/20/2025		92868MAD1	VALET 2025-1 A3	4.50%	8/20/2029	825.00		
8/20/2025	8/20/2025		92868RAD0	VALET 2024-1 A3	4.63%	7/20/2029	347.25		
8/20/2025	8/20/2025		92348KDY6	VZMT 2025-3 A1A	4.51%	3/20/2030	995.96		
8/21/2025	8/21/2025		43814VAC1	HAROT 2025-1 A3	4.57%	9/21/2029	952.08		
8/25/2025	8/25/2025		096924AD7	BMWOT 2025-A A3	4.56%	9/25/2029	665.00		
8/25/2025	8/25/2025		3135G05X7	FANNIE MAE	0.37%	8/25/2025	609.38		
8/26/2025	8/26/2025		17275RBR2	CISCO SYSTEMS INC (CALLABLE)	4.85%	2/26/2029	5,941.25		
8/29/2025	8/29/2025		3137HDJJ0	FHMS K522 A2	4.80%	5/1/2029	194.58		
8/31/2025	8/31/2025		91282CGP0	US TREASURY N/B	4.00%	2/29/2028	16,500.00		
9/1/2025	9/1/2025		13063D3N6	CA ST	4.84%	3/1/2027	2,907.60		
9/1/2025	9/25/2025		3137BSP72	FHMS K058 A2	2.65%	8/1/2026	718.52		
9/1/2025	9/25/2025		3137HAQ74	FHMS K508 A2	4.74%	8/1/2028	1,185.00		
9/1/2025	9/25/2025		3137HB3G7	FHMS K511 A2	4.86%	10/1/2028	668.25		
9/1/2025	9/25/2025		3137HDV56	FHMS K524 A2	4.72%	5/1/2029	944.00		
9/1/2025	9/25/2025		3137HKXJ8	FHMS K539 A2	4.41%	1/1/2030	441.00		
9/1/2025	9/25/2025		3137HBC69	FHMS KJ48 A1	4.85%	5/1/2028	929.93		
9/1/2025	9/25/2025		3137HAMH6	FHMS K506 A2	4.65%	8/1/2028	1,743.75		

Quarterly Portfolio Transactions

Trade Date	Settle Date	Par ($)	CUSIP	Security Description	Coupon	Maturity Date	Transact Amount ($)	Yield at Market	Realized G/L (BV)
INTEREST									
9/1/2025	9/25/2025		3137HAD45	FHMS KJ46 A1	4.77%	6/1/2028	938.46		
9/1/2025	9/25/2025		3137HDJJ0	FHMS K522 A2	4.80%	5/1/2029	1,170.07		
9/1/2025	9/25/2025		3137HDXL9	FHMS K526 A2	4.54%	7/1/2029	1,022.17		
9/1/2025	9/25/2025		3137BXQY1	FHMS K064 A2	3.22%	3/1/2027	806.00		
9/1/2025	9/25/2025		3137BNGT5	FHMS K054 A2	2.74%	1/1/2026	300.54		
9/1/2025	9/25/2025		3137HBLV4	FHMS K514 A2	4.57%	12/1/2028	704.85		
9/1/2025	9/25/2025		3137HACX2	FHMS K505 A2	4.81%	6/1/2028	1,204.75		
9/1/2025	9/25/2025		3137HCKV3	FHMS K520 A2	5.18%	3/1/2029	798.58		
9/1/2025	9/25/2025		3137BTUM1	FHMS K061 A2	3.34%	11/1/2026	548.22		
9/1/2025	9/25/2025		3137F1G44	FHMS K065 A2	3.24%	4/1/2027	810.75		
9/1/2025	9/25/2025		3137HAST4	FHMS K509 A2	4.85%	9/1/2028	909.38		
9/1/2025	9/25/2025		3136BQDE6	FNA 2023-M6 A2	4.18%	7/1/2028	1,000.31		
9/1/2025	9/25/2025		3137HB3D4	FHMS K510 A2	5.06%	10/1/2028	464.66		
9/1/2025	9/25/2025		3137HAMS2	FHMS K507 A2	4.80%	9/1/2028	1,200.00		
9/2/2025	9/2/2025		MONEY0002	MONEY MARKET FUND	0.00%		2,239.87		
9/4/2025	9/4/2025		3130AK5E2	FEDERAL HOME LOAN BANK	0.37%	9/4/2025	253.13		
9/5/2025	9/5/2025		02665WFQ9	AMERICAN HONDA FINANCE	4.40%	9/5/2029	4,950.00		

Quarterly Portfolio Transactions

Trade Date	Settle Date	Par ($)	CUSIP	Security Description	Coupon	Maturity Date	Transact Amount ($)	Yield at Market	Realized G/L (BV)
INTEREST									
9/14/2025	9/14/2025		09290DAA9	BLACKROCK FUNDING INC (CALLABLE)	4.70%	3/14/2029	10,575.00		
9/15/2025	9/15/2025		89240JAD3	TAOT 2025-A A3	4.64%	8/15/2029	618.67		
9/15/2025	9/15/2025		44935CAD3	HART 2025-A A3	4.32%	10/15/2029	774.00		
9/15/2025	9/15/2025		02582JKM1	AMXCA 2025-1 A	4.56%	12/17/2029	1,254.00		
9/15/2025	9/15/2025		05522RDK1	BACCT 2025-A1 A	4.31%	5/15/2030	574.67		
9/15/2025	9/15/2025		89239TAD4	TAOT 2024-D A3	4.40%	6/15/2029	238.33		
9/15/2025	9/15/2025		92970QAE5	WFCIT 2024-A2 A	4.29%	10/15/2029	589.88		
9/15/2025	9/15/2025		92970QAJ4	WFCIT 2025-A1 A	4.34%	5/15/2030	1,121.17		
9/15/2025	9/15/2025		14041NGE5	COMET 2024-A1 A	3.92%	9/15/2029	1,012.67		
9/15/2025	9/15/2025		437921AD1	HAROT 2025-2 A3	4.15%	10/15/2029	259.37		
9/15/2025	9/15/2025		02582JKH2	AMXCA 2024-1 A	5.23%	4/16/2029	1,176.75		
9/15/2025	9/15/2025		02582JKD1	AMXCA 2023-3 A	5.23%	9/15/2028	1,067.79		
9/15/2025	9/15/2025		89231HAD8	TAOT 2025-B A3	4.34%	11/15/2029	470.17		
9/15/2025	9/15/2025		65479WAD6	NAROT 2024-B A3	4.34%	3/15/2029	253.17		
9/15/2025	9/15/2025		05522RDH8	BACCT 2023-A2 A2	4.98%	11/15/2028	435.75		
9/15/2025	9/15/2025		43816DAC9	HAROT 2024-4 A3	4.33%	5/15/2029	324.75		
9/15/2025	9/15/2025		161571HV9	CHAIT 2024-A1 A	4.60%	1/15/2029	996.67		

Quarterly Portfolio Transactions

Trade Date	Settle Date	Par ($)	CUSIP	Security Description	Coupon	Maturity Date	Transact Amount ($)	Yield at Market	Realized G/L (BV)
INTEREST									
9/15/2025	9/15/2025		448976AD2	HART 2024-C A3	4.41%	5/15/2029	422.63		
9/15/2025	9/15/2025		437918AC9	HAROT 2024-1 A3	5.21%	8/15/2028	781.50		
9/15/2025	9/15/2025		41285JAD0	HDMOT 2023-A A3	5.05%	12/15/2027	214.10		
9/15/2025	9/15/2025		02007NAC2	ALLYA 2024-2 A3	4.14%	7/16/2029	362.25		
9/15/2025	9/15/2025		084664CZ2	BERKSHIRE HATHAWAY FIN (CALLABLE)	2.30%	3/15/2027	5,175.00		
9/15/2025	9/15/2025		65481GAD7	NAROT 2025-A A3	4.49%	12/17/2029	916.71		
9/15/2025	9/15/2025		34535KAD0	FORDO 2025-A A3	4.45%	10/15/2029	982.71		
9/16/2025	9/16/2025		362549AD9	GMCAR 2025-2 A3	4.28%	4/16/2030	196.17		
9/16/2025	9/16/2025		38014AAD3	GMCAR 2024-4 A3	4.40%	8/16/2029	330.00		
9/20/2025	9/20/2025		92868MAD1	VALET 2025-1 A3	4.50%	8/20/2029	825.00		
9/20/2025	9/20/2025		92348KDY6	VZMT 2025-3 A1A	4.51%	3/20/2030	995.96		
9/20/2025	9/20/2025		92868RAD0	VALET 2024-1 A3	4.63%	7/20/2029	347.25		
9/21/2025	9/21/2025		43814VAC1	HAROT 2025-1 A3	4.57%	9/21/2029	952.08		
9/23/2025	9/23/2025		3137EAEX3	FREDDIE MAC	0.37%	9/23/2025	609.38		
9/25/2025	9/25/2025		096924AD7	BMWOT 2025-A A3	4.56%	9/25/2029	665.00		
9/29/2025	9/29/2025		17325FBB3	CITIBANK NA (CALLABLE)	5.80%	9/29/2028	13,056.75		
Total INTEREST		**0.00**					**262,441.36**		**0.00**

Quarterly Portfolio Transactions

Trade Date	Settle Date	Par ($)	CUSIP	Security Description	Coupon	Maturity Date	Transact Amount ($)	Yield at Market	Realized G/L (BV)
MATURITY									
7/1/2025	7/1/2025	150,000.00	341271AD6	FLORIDA ST BRD OF ADM	1.25%	7/1/2025	150,000.00		
7/1/2025	7/1/2025	55,000.00	341271AD6	FLORIDA ST BRD OF ADM	1.25%	7/1/2025	55,000.00		
7/1/2025	7/1/2025	80,000.00	341271AD6	FLORIDA ST BRD OF ADM	1.25%	7/1/2025	80,000.00		
7/21/2025	7/21/2025	375,000.00	3137EAEU9	FREDDIE MAC	0.37%	7/21/2025	375,000.00		
7/27/2025	7/27/2025	225,000.00	459200KS9	IBM CORP	4.00%	7/27/2025	225,000.00		
8/1/2025	8/1/2025	100,000.00	60412AK85	MINNESOTA ST-F-UNREF	0.63%	8/1/2025	100,000.00		
8/25/2025	8/25/2025	325,000.00	3135G05X7	FANNIE MAE	0.37%	8/25/2025	325,000.00		
9/4/2025	9/4/2025	135,000.00	3130AK5E2	FEDERAL HOME LOAN BANK	0.37%	9/4/2025	135,000.00		
9/23/2025	9/23/2025	325,000.00	3137EAEX3	FREDDIE MAC	0.37%	9/23/2025	325,000.00		
Total MATURITY		**1,770,000.00**					**1,770,000.00**		**0.00**
PAYDOWNS									
7/1/2025	7/25/2025	3,023.98	3137BNGT5	FHMS K054 A2	2.74%	1/1/2026	3,023.98		25.52
7/1/2025	7/25/2025	276.93	3137HAD45	FHMS KJ46 A1	4.77%	6/1/2028	276.93		
7/1/2025	7/25/2025	30.10	3136BQDE6	FNA 2023-M6 A2	4.18%	7/1/2028	30.10		0.31
7/1/2025	7/25/2025	7,637.03	3137HDJJ0	FHMS K522 A2	4.80%	5/1/2029	7,637.03		
7/1/2025	7/25/2025	749.65	3137HBC69	FHMS KJ48 A1	4.85%	5/1/2028	749.65		
7/1/2025	7/25/2025	428.03	3137BTUM1	FHMS K061 A2	3.34%	11/1/2026	428.03		5.27

Quarterly Portfolio Transactions

Trade Date	Settle Date	Par ($)	CUSIP	Security Description	Coupon	Maturity Date	Transact Amount ($)	Yield at Market	Realized G/L (BV)
PAYDOWNS									
7/15/2025	7/15/2025	6,390.74	448977AD0	HART 2022-A A3	2.22%	10/15/2026	6,390.74		0.07
7/15/2025	7/15/2025	5,476.68	41285JAD0	HDMOT 2023-A A3	5.05%	12/15/2027	5,476.68		0.28
8/1/2025	8/25/2025	28.27	3137HDJJ0	FHMS K522 A2	4.80%	5/1/2029	28.27		
8/1/2025	8/25/2025	405.80	3137BTUM1	FHMS K061 A2	3.34%	11/1/2026	405.80		4.70
8/1/2025	8/25/2025	26.89	3136BQDE6	FNA 2023-M6 A2	4.18%	7/1/2028	26.89		0.27
8/1/2025	8/25/2025	232.66	3137HAD45	FHMS KJ46 A1	4.77%	6/1/2028	232.66		
8/1/2025	8/25/2025	260.07	3137BNGT5	FHMS K054 A2	2.74%	1/1/2026	260.07		1.87
8/1/2025	8/25/2025	578.72	3137HBC69	FHMS KJ48 A1	4.85%	5/1/2028	578.72		0.01
8/15/2025	8/15/2025	4,375.32	448977AD0	HART 2022-A A3	2.22%	10/15/2026	4,375.31		0.04
8/15/2025	8/15/2025	5,578.86	41285JAD0	HDMOT 2023-A A3	5.05%	12/15/2027	5,578.86		0.27
9/1/2025	9/25/2025	179.91	3137BTUM1	FHMS K061 A2	3.34%	11/1/2026	179.91		1.95
9/1/2025	9/25/2025	247.14	3137HAD45	FHMS KJ46 A1	4.77%	6/1/2028	247.14		
9/1/2025	9/25/2025	3,439.09	3137BNGT5	FHMS K054 A2	2.74%	1/1/2026	3,439.09		20.49
9/1/2025	9/25/2025	27.02	3136BQDE6	FNA 2023-M6 A2	4.18%	7/1/2028	27.02		0.27
9/1/2025	9/25/2025	28.41	3137HDJJ0	FHMS K522 A2	4.80%	5/1/2029	28.41		
9/1/2025	9/25/2025	582.30	3137HBC69	FHMS KJ48 A1	4.85%	5/1/2028	582.30		
9/15/2025	9/15/2025	1,035.91	437918AC9	HAROT 2024-1 A3	5.21%	8/15/2028	1,035.91		0.03

Quarterly Portfolio Transactions

Trade Date	Settle Date	Par ($)	CUSIP	Security Description	Coupon	Maturity Date	Transact Amount ($)	Yield at Market	Realized G/L (BV)
PAYDOWNS									
9/15/2025	9/15/2025	5,635.68	41285JAD0	HDMOT 2023-A A3	5.05%	12/15/2027	5,635.68		0.27
Total PAYDOWNS		**46,675.19**					**46,675.18**		**61.62**

Important Disclosures

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- Performance is presented in accordance with the CFA Institute's Global Investment Performance Standards (GIPS). Unless otherwise noted, performance is shown gross of fees. Quarterly returns are presented on an unannualized basis. Returns for periods greater than one year are presented on an annualized basis. **Past performance is not indicative of future returns.**

- ICE Bank of America Indices provided by Bloomberg Financial Markets.

- Money market fund/cash balances are included in performance and duration computations.

- Standard & Poor's is the source of the credit ratings. Distribution of credit rating is exclusive of money market fund/LGIP holdings.

- Callable securities in the portfolio are included in the maturity distribution analysis to their stated maturity date, although, they may be called prior to maturity.

- MBS maturities are represented by expected average life.

Glossary

- Accrued Interest: Interest that is due on a bond or other fixed income security since the last interest payment was made.
- Agencies: Federal agency securities and/or Government-sponsored enterprises.
- Amortized Cost: The original cost of the principal of the security is adjusted for the amount of the periodic reduction of any discount or premium from the purchase date until the date of the report. Discount or premium with respect to short-term securities (those with less than one year to maturity at time of issuance) is amortized on a straight line basis. Such discount or premium with respect to longer-term securities is amortized using the constant yield basis.
- Asset-Backed Security: A financial instrument collateralized by an underlying pool of assets – usually ones that generate a cash flow from debt, such as loans, leases, credit card balances, and receivables.
- Bankers' Acceptance: A draft or bill or exchange accepted by a bank or trust company. The accepting institution guarantees payment of the bill as well as the insurer.
- Commercial Paper: An unsecured obligation issued by a corporation or bank to finance its short-term credit needs, such as accounts receivable and inventory.
- Contribution to Total Return: The weight of each individual security multiplied by its return, then summed for each sector to determine how much each sector added or subtracted from the overall portfolio performance.
- Effective Duration: A measure of the sensitivity of a security's price to a change in interest rates, stated in years.
- Effective Yield: The total yield an investor receives in relation to the nominal yield or coupon of a bond. Effective yield takes into account the power of compounding on investment returns, while nominal yield does not.
- FDIC: Federal Deposit Insurance Corporation. A federal agency that insures bank deposits to a specified amount.
- Interest Rate: Interest per year divided by principal amount and expressed as a percentage.
- Market Value: The value that would be received or paid for an investment in an orderly transaction between market participants at the measurement date.
- Maturity: The date upon which the principal or stated value of an investment becomes due and payable.
- Negotiable Certificates of Deposit: A CD with a very large denomination, usually $1 million or more, that can be traded in secondary markets.
- Par Value: The nominal dollar face amount of a security.
- Pass-through Security: A security representing pooled debt obligations that passes income from debtors to its shareholders. The most common type is the mortgage-backed security.

Glossary

- Repurchase Agreements: A holder of securities sells these securities to an investor with an agreement to repurchase them at a fixed price on a fixed date.
- Settle Date: The date on which the transaction is settled and monies/securities are exchanged. If the settle date of the transaction (i.e., coupon payments and maturity proceeds) occurs on a non-business day, the funds are exchanged on the next business day.
- Supranational: A multinational union or association in which member countries cede authority and sovereignty on at least some internal matters to the group, whose decisions are binding on its members.
- Trade Date: The date on which the transaction occurred; however, the final consummation of the security transaction and payment has not yet taken place.
- Unsettled Trade: A trade which has been executed; however, the final consummation of the security transaction and payment has not yet taken place.
- U.S. Treasury: The department of the U.S. government that issues Treasury securities.
- Yield: The rate of return based on the current market value, the annual interest receipts, maturity value, and the time period remaining until maturity, stated as a percentage on an annualized basis.
- YTM at Cost: The yield to maturity at cost is the expected rate of return based on the original cost, the annual interest receipts, maturity value, and the time period from purchase date to maturity, stated as a percentage on an annualized basis.
- YTM at Market: The yield to maturity at market is the rate of return based on the current market value, the annual interest receipts, maturity value, and the time period remaining until maturity, stated as a percentage on an annualized basis.

MALIA M. COHEN

California State Controller

LOCAL AGENCY INVESTMENT FUND
REMITTANCE ADVICE

Agency Name	BENICIA
Account Number	98-48-074

As of 10/15/2025, your Local Agency Investment Fund account has been directly credited with the interest earned on your deposits for the quarter ending 9/30/2025.

Earnings Ratio		0.00011893333163814
Interest Rate		4.34%
Dollar Day Total	$	771,414,955.46
Quarter End Principal Balance	$	8,398,796.45
Quarterly Interest Earned	$	91,746.95

Customer Service
PO Box 11813
Harrisburg, PA 17108-1813

ACCOUNT STATEMENT

City of Benicia

For the Month Ending
September 30, 2025

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Accounts included in Statement

6125-001	City of Benicia

Important Messages

CAMP will be closed on 10/13/2025 for Columbus Day.
CAMP will be closed on 11/11/2025 for Veterans Day.

CITY OF BENICIA
ROXANNA MORADI
250 EAST L STREET
BENICIA, CA 94510

Online Access www.camponline.com **Customer Service** 1-800-729-7665

Important Disclosures

Important Disclosures

This statement is for general information purposes only and is not intended to provide specific advice or recommendations. PFM Asset Management ("PFMAM") is a division of U.S. Bancorp Asset Management, Inc. ("USBAM"), a SEC-registered investment adviser. USBAM is direct subsidiary of U.S. Bank National Association ("U.S. Bank") and an indirect subsidiary of U.S. Bancorp. U.S. Bank is not responsible for and does not guarantee the products, services or performance of PFMAM. PFMAM maintains a written disclosure statement of our background and business experience. If you would like to receive a copy of our current disclosure statement, please contact Service Operations at the address below.

Proxy Voting PFMAM does not normally receive proxies to vote on behalf of its clients. However, it does on occasion receive consent requests. In the event a consent request is received the portfolio manager contacts the client and then proceeds according to their instructions. PFMAM's Proxy Voting Policy is available upon request by contacting Service Operations at the address below.

Questions About an Account PFMAM's monthly statement is intended to detail our investment advisory activity as well as the activity of any accounts held by clients in pools that are managed by PFMAM. The custodian bank maintains the control of assets and executes (i.e., settles) all investment transactions. The custodian statement is the official record of security and cash holdings and transactions. PFMAM recognizes that clients may use these reports to facilitate record keeping and that the custodian bank statement and the PFMAM statement should be reconciled and differences resolved. Many custodians use a settlement date basis which may result in the need to reconcile due to a timing difference.

Account Control PFMAM does not have the authority to withdraw funds from or deposit funds to the custodian outside the scope of services provided by PFMAM. Our clients retain responsibility for their internal accounting policies; implementing and enforcing internal controls and generating ledger entries or otherwise recording transactions.

Market Value Generally, PFMAM's market prices are derived from closing bid prices as of the last business day of the month as supplied by ICE Data Services. There may be differences in the values shown for investments due to accrued but uncollected income and the use of differing valuation sources and methods. Non-negotiable FDIC-insured bank certificates of deposit are priced at par. Although PFMAM believes the prices to be reliable, the values of the securities may not represent the prices at which the securities could have been bought or sold. Explanation of the valuation methods for a registered investment company or local government investment program is contained in the appropriate fund offering documentation or information statement.

Amortized Cost The original cost of the principal of the security is adjusted for the amount of the periodic reduction of any discount or premium from the purchase date until the date of the report. Discount or premium with respect to short term securities (those with less than one year to maturity at time of issuance) is amortized on a straightline basis. Such discount or premium with respect to longer term securities is amortized using the constant yield basis.

Tax Reporting Cost data and realized gains / losses are provided for informational purposes only. Please review for accuracy and consult your tax advisor to determine the tax consequences of your security transactions. PFMAM does not report such information to the IRS or other taxing authorities and is not responsible for the accuracy of such information that may be required to be reported to federal, state or other taxing authorities.

Financial Situation In order to better serve you, PFMAM should be promptly notified of any material change in your investment objective or financial situation.

Callable Securities Securities subject to redemption prior to maturity may be redeemed in whole or in part before maturity, which could affect the yield represented.

Portfolio The securities in this portfolio, including shares of mutual funds, are not guaranteed or otherwise protected by PFMAM, the FDIC (except for certain non-negotiable certificates of deposit) or any government agency. Investment in securities involves risks, including the possible loss of the amount invested. Actual settlement values, accrued interest, and amortized cost amounts may vary for securities subject to an adjustable interest rate or subject to principal paydowns. Any changes to the values shown may be reflected within the next monthly statement's beginning values.

Rating Information provided for ratings is based upon a good faith inquiry of selected sources, but its accuracy and completeness cannot be guaranteed.

Shares of some local government investment programs and TERM funds are distributed by representatives of USBAM's affiliate, U.S. Bancorp Investments, Inc. which is registered with the SEC as a broker/dealer and is a member of the Financial Industry Regulatory Authority ("FINRA") and the Municipal Securities Rulemaking Board ("MSRB"). You may reach the FINRA by calling the FINRA Hotline at 1-800-289-9999 or at the FINRA website address https://www.finra.org/investors/investor-contacts. A brochure describing the FINRA Regulation Public Disclosure Program is also available from FINRA upon request.

Key Terms and Definitions

Dividends on local government investment program funds consist of interest earned, plus any discount ratably amortized to the date of maturity, plus all realized gains and losses on the sale of securities prior to maturity, less ratable amortization of any premium and all accrued expenses to the fund. Dividends are accrued daily and may be paid either monthly or quarterly. The monthly earnings on this statement represent the estimated dividend accrued for the month for any program that distributes earnings on a quarterly basis. There is no guarantee that the estimated amount will be paid on the actual distribution date.

Current Yield is the net change, exclusive of capital changes and income other than investment income, in the value of a hypothetical fund account with a balance of one share over the seven-day base period including the statement date, expressed as a percentage of the value of one share (normally $1.00 per share) at the beginning of the seven-day period. This resulting net change in account value is then annualized by multiplying it by 365 and dividing the result by 7. The yields quoted should not be considered a representation of the yield of the fund in the future, since the yield is not fixed.

Average maturity represents the average maturity of all securities and investments of a portfolio, determined by multiplying the par or principal value of each security or investment by its maturity (days or years), summing the products, and dividing the sum by the total principal value of the portfolio. The stated maturity date of mortgage backed or callable securities are used in this statement. However the actual maturity of these securities could vary depending on the level or prepayments on the underlying mortgages or whether a callable security has or is still able to be called.

Monthly distribution yield represents the net change in the value of one share (normally $1.00 per share) resulting from all dividends declared during the month by a fund expressed as a percentage of the value of one share at the beginning of the month. This resulting net change is then annualized by multiplying it by 365 and dividing it by the number of calendar days in the month.

YTM at Cost The yield to maturity at cost is the expected rate of return, based on the original cost, the annual interest receipts, maturity value and the time period from purchase date to maturity, stated as a percentage, on an annualized basis.

YTM at Market The yield to maturity at market is the rate of return, based on the current market value, the annual interest receipts, maturity value and the time period remaining until maturity, stated as a percentage, on an annualized basis.

Managed Account A portfolio of investments managed discretely by PFMAM according to the client's specific investment policy and requirements. The investments are directly owned by the client and held by the client's custodian.

Unsettled Trade A trade which has been executed however the final consummation of the security transaction and payment has not yet taken place.

Please review the detail pages of this statement carefully. If you think your statement is wrong, missing account information, or if you need more information about a transaction, please contact PFMAM within 60 days of receipt. If you have other concerns or questions regarding your account, or to request an updated copy of PFMAM's current disclosure statement, please contact a member of your client management team at PFMAM Service Operations at the address below.

PFM Asset Management
Attn: Service Operations
213 Market Street
Harrisburg, PA 17101

NOT FDIC INSURED **NO BANK GUARANTEE** **MAY LOSE VALUE**

Account Statement - Transaction Summary

For the Month Ending **September 30, 2025**

City of Benicia - City of Benicia - 6125-001

CAMP Pool

Opening Market Value	29,005,879.54
Purchases	20,832,788.43
Redemptions	0.00
Unsettled Trades	0.00
Change in Value	0.00
Closing Market Value	**$49,838,667.97**
Cash Dividends and Income	175,517.20

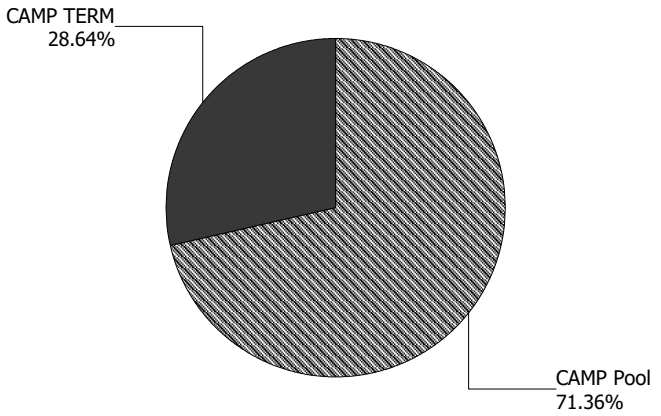
CAMP TERM

Opening Market Value	40,000,000.00
Purchases	0.00
Redemptions	(20,000,000.00)
Unsettled Trades	0.00
Change in Value	0.00
Closing Market Value	**$20,000,000.00**
Cash Dividends and Income	657,271.23

Asset Summary

	September 30, 2025	August 31, 2025
CAMP Pool	49,838,667.97	29,005,879.54
CAMP TERM	20,000,000.00	40,000,000.00
Total	**$69,838,667.97**	**$69,005,879.54**

Asset Allocation



Investment Holdings

For the Month Ending **September 30, 2025**

City of Benicia - City of Benicia - 6125-001

Trade Date	Settlement Date	Security Description	Maturity Date	Rate	Investment Amount	Estimated Earnings	Est. Value at Maturity
CAMP TERM							
08/21/25	08/22/25	TERM - California Asset Management Program Term Dec 26	05/19/26	4.1100	20,000,000.00	90,082.19	20,608,054.79
Total					**$20,000,000.00**	**$90,082.19**	**$20,608,054.79**

City of Benicia - City of Benicia - 6125-001

Trade Date	Settlement Date	Transaction Description	Share or Unit Price	Dollar Amount of Transaction	Total Shares Owned
CAMP Pool					
Opening Balance					**29,005,879.54**
09/02/25	09/02/25	Purchase - TERM Maturity	1.00	20,657,271.23	49,663,150.77
09/30/25	10/01/25	Accrual Income Div Reinvestment - Distributions	1.00	175,517.20	49,838,667.97
Closing Balance					**49,838,667.97**

	Month of September	Fiscal YTD July-September
Opening Balance	29,005,879.54	61,121,735.95
Purchases	20,832,788.43	21,216,932.02
Redemptions (Excl. Checks)	0.00	(32,500,000.00)
Check Disbursements	0.00	0.00
Closing Balance	**49,838,667.97**	**49,838,667.97**
Cash Dividends and Income	175,517.20	559,660.79

Closing Balance	49,838,667.97
Average Monthly Balance	48,980,425.64
Monthly Distribution Yield	4.36%

Trade Date	Settlement Date	Transaction Description	Maturity Date	Stated Yield	Dollar Amount of Transaction
CAMP TERM					
09/02/25	09/02/25	Redemption - TERM Maturity			(20,657,271.23)

PUBLIC AGENCY
RETIREMENT SERVICES

CITY OF BENICIA
PARS Post-Employment Benefits Trust

Account Report for the Period
9/1/2025 to 9/30/2025

Jeff Tschudi
Finance Director
City of Benicia
250 East L Street
Benicia, CA 94510

Account Summary

Source	Balance as of 9/1/2025	Contributions	Earnings	Expenses	Distributions	Transfers	Balance as of 9/30/2025
PENSION	$8,361,563.02	$500,000.00	$172,263.54	$3,832.03	$0.00	$0.00	$9,029,994.53
Totals	$8,361,563.02	$500,000.00	$172,263.54	$3,832.03	$0.00	$0.00	$9,029,994.53

Investment Selection

Source	
PENSION	Moderate - Strategic Blend

Investment Objective

Source	
PENSION	The dual goals of the Moderate Strategy are growth of principal and income. It is expected that dividend and interest income will comprise a significant portion of total return, although growth through capital appreciation is equally important. The portfolio will be allocated between equity and fixed income investments.

Investment Return

Source	1-Month	3-Months	1-Year	Annualized Return 3-Years	5-Years	10-Years	Plan's Inception Date
PENSION	2.06%	4.41%	8.88%	13.10%	6.08%	-	10/14/2020

Information as provided by US Bank, Trustee for PARS; Not FDIC Insured; No Bank Guarantee; May Lose Value

Past performance does not guarantee future results. Performance returns may not reflect the deduction of applicable fees, which could reduce returns. Information is deemed reliable but may be subject to change.
Investment Return: Annualized rate of return is the return on an investment over a period other than one year multiplied or divided to give a comparable one-year return.
Account balances are inclusive of Trust Administration, Trustee and Investment Management fees

AGENDA ITEM
CITY COUNCIL MEETING DATE – DECEMBER 16, 2025
CONSENT CALENDAR

TO : City Manager

FROM : Finance Director

SUBJECT : **ADOPTION OF THE ANNUAL AND FIVE-YEAR ASSEMBLY BILL 1600 REPORT**

EXECUTIVE SUMMARY:

In California, State legislation sets certain legal and procedural parameters for the charging of development impact fees. This legislation was passed as Assembly Bill (AB) 1600 by the California Legislature and is now codified as California Government Code Sections 66000 through 66025 (Mitigation Fee Act). The Mitigation Fee Act requires any local agency that imposes Development Impact Fees to prepare the City of Benicia Annual and Five-Year Impact Fee Report (AB 1600 Report) that provides specific information about those fees. The AB 1600 Report serves both of those functions, and has been prepared for the City of Benicia, for the fiscal year ended June 30, 2025, in accordance with the provisions of the California Government Code Section 66006 (b), 66001 (d), and 66013 (d).

RECOMMENDATION:

Move to adopt a resolution (Attachment 1) adopting the AB 1600 Report (Exhibit A).

BUDGET INFORMATION:

There are no financial or budgetary impacts associated with the adoption of the AB 1600 Report.

BACKGROUND:

When new development is constructed, or an existing use is changed to a use that has additional impacts on public facilities, the City experiences increased demand on the services and facilities it provides. Impact fees are one-time contributions made by project applicants to offset the impacts that result from their project. Impact fees cannot exceed the reasonable costs to address the proportionate impacts of new development. This means applicants only pay their fair share of necessary upgrades to meet the increased demand that results from their project, and their impact fees cannot be used to address deficiencies that existed before their project. The Mitigation Fee Act regulates impact fees and requires the City to demonstrate the required nexus between the impact of the project on public facilities and the fees charged to the project applicant.

Impact fee revenues pay for upgrades to City facilities and infrastructure to ensure that the quality of facilities does not decline as new residents and employees begin living and working in Benicia.

Annual and Five-Year AB 1600 Report
The Mitigation Fee Act imposes certain accounting and reporting requirements with respect to the fees collected. The Mitigation Fee Act also requires any local agency that imposes development impact fees to prepare an annual report and a five-year report that provide specific information about those fees which summarize the fee revenue collected, expenditures made with this fee revenue, fund balances, and plans for future expenditures based upon additional fee collection. The attached AB 1600 Report (Exhibit A) serves both the annual and five-year requirements and has been prepared for the City of Benicia for the fiscal year ended June 30, 2025, in accordance with the provisions of the California Government Code Section 66006 (b), 66001 (d), and 66013(d).

NEXT STEPS:
The AB 1600 Report will remain publicly available on the City's website. Staff will submit the AB 1600 Report to Council for adoption on an annual basis.

ALTERNATIVE ACTIONS:
If Council does not approve, the AB 1600 Report would not be officially adopted, thus making the City out of compliance with the State regulation.

CEQA Analysis	This action is Categorically Exempt per CEQA Section 21080(b)(9);15300 which applies to any project that has been determined not to have significant effect on the environment and exempt from this division.

ATTACHMENT:
1. Resolution - Adoption of AB 1600 Report
   Exhibit A - Annual and Five-Year AB 1600 Report

For more information contact: Jeff Tschudi, Finance Director
Phone: (707) 746-4222
E-mail: jtschudi@ci.benicia.ca.us

RESOLUTION NO. 25-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA

WHEREAS, the City of Benicia imposes development fees that are subject to the Mitigation Fee Act (Gov. Code §§ 66000 *et seq*.): the Library Impact Fee, the Transportation Impact Mitigation Fee, the Parkland Improvement Impact Fee, the Water Capacity Fee, and the Sewer Capacity Fee (collectively Impact Fees); and

WHEREAS, pursuant to Government Code Sections 66006 and 66013, the City is required to prepare an annual report regarding the collection and use of the Impact Fees within 180 days after the close of each fiscal year; and

WHEREAS, pursuant to Government Code Section 66001, the City is required make findings with respect to any unexpended Impact Fee funds every fifth fiscal year following the first deposit into the Impact Fee accounts; and

WHEREAS, Staff has prepared the *City of Benicia Annual and Five-Year Impact Fee Report* also known as the Assembly Bill (AB) 1600 Report (Exhibit A), and incorporated by reference; and

WHEREAS, the AB 1600 Report satisfies the reporting requirements stated in Government Code sections 66001, 66006, and 66013; and

WHEREAS, notice was provided to the extent required by Government Code section 66006; and

WHEREAS, pursuant to Government Code section 66006(b)(2), the AB 1600 Report has been made available to the public not less than fifteen (15) days from the date of the next regularly scheduled public meeting. The report has been available for public review at the Clerk's office and on the City's website since December 1, 2025; and

NOW, THEREFORE, BE IT RESOLVED THAT the City Council of the City of Benicia that the forgoing recitals are true and correct.

BE IT FURTHER RESOLVED that the City Council does hereby find and adopt as follows:

1. In accordance with Government Code Section 66000 *et seq.*, the City has conducted an annual and five-year review of its Impact Fees and capital infrastructure programs and the Council has reviewed the AB 1600 Report for the Fiscal Year 2024-25 attached hereto as Exhibit A, which is hereby accepted and adopted as the report required pursuant to Government Code sections 66001, 66006, and 66013.

2. The funds have been used for the purposes stated in said report and are necessary to mitigate impacts resulting from development in the City and there is a reasonable relationship between the use of the fees and the type of development project upon which the fee is imposed.

Section 1. Effective Date. This Resolution shall take effect immediately upon its adoption.

Section 2. The City Clerk shall certify the adoption of this Resolution and shall cause a certified Resolution to be filed in the Office of the City Clerk.

*****

On motion of Council Member , seconded by Council Member , the above Resolution was adopted by the City Council of the City of Benicia at a regular meeting of said Council held on the 16th day of December 2025 by the following vote:

Ayes:

Noes:

Absent:

Abstain:

_____
Steve Young, Mayor

Attest:

_____
Lisa Wolfe, City Clerk

_____
Date

Exhibit A
Exhibit A - Annual and Five-Year AB 1600 Report
[see next page]

THE CITY OF
BENICIA
CALIFORNIA



City of Benicia Annual and Five-Year Impact Fee Report

For the Fiscal Year Ending June 30, 2025

4898-6903-7692 v2

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INTRODUCTION AND BACKGROUND

Requirements for Development Impact Fee Reporting

The Mitigation Fee Act imposes certain accounting and reporting requirements with respect to the fees collected. The fees must be deposited in a special account to avoid comingling the fees with the City's other revenues or funds. Interest on each development fee fund or account must be credited to that fund or account and used only for those purposes for which the fees were collected.

The Mitigation Fee Act also requires any local agency that imposes Development Impact Fees to prepare an annual report, with annual findings and five-year findings, that provides specific information about those fees. This report serves both of those functions and has been prepared for the City of Benicia for the fiscal year (FY) ended June 30, 2025, in accordance with the provisions of the California Government Code Section 66006 (b) and 66001 (d).

In addition to development impact fees, the City also collects Park In-Lieu Fees (also referred to as Quimby Fees) and water and wastewater capacity fees. In-lieu fees are an option offered to developers "in lieu" of providing specific physical public facilities. Capacity fees are typically related to utilities such as water or wastewater and are used to cover costs associated with expanding the associated infrastructure systems to accommodate increased demand by new development. Although in-lieu and capacity fees are subject to different requirements than other impact fees under the Mitigation Fee Act, a recent court ruling, *Hamilton and High, LLC v. City of Palo Alto*, concluded that in-lieu fees must be included in the annual report required by the Mitigation Fee Act. Capacity fees are also required to be included in the annual report; however, the findings for capacity fees under Government Code Section 66013 differ from other impact fees. The City's Park In-Lieu Fees are assessed pursuant to the Quimby Act under Government Section 66477 and are expressly exempt from the reporting requirements included in the Mitigation Fee Act.

Annual Report

California Government Code Section 66006 (b) requires each local agency that imposes Development Impact Fees under the Mitigation Fee Act to prepare an annual report providing specific information about those fees for the previous fiscal year. Specifically, Section 66006 (b) requires that for each separate fund, the local agency shall make available to the public the information shown below for the most recent fiscal year.

- 66006 (b) (1) (A): A brief description of the type of fee in the account or fund.
- 66006 (b) (1) (B): The amount of the fees.
- 66006 (b) (1) (C): The beginning (July 1) and ending (June 30) balance of a particular impact fee fund.
- 66006 (b) (1) (D): The amount of the fees collected and interest earned by fund.

- 66006 (b) (1) (E): An identification of each public improvement upon which fees were expended and the amount of expenditures on each improvement including the total percentage of the cost of the public improvement that was funded with fees.
- 66006 (b) (1) (F): An identification of an approximate date by which the construction of the public improvement will commence if the local agency determines that sufficient funds have been collected to complete financing on an incomplete public improvement.
- 66006 (b) (1) (G): A description of each interfund transfer or loan made from the account or fund, including the public improvement on which the transferred or loaned fees will be expended; and, in the case of an interfund loan, the terms of the loan, including the repayment schedule for the loan, and the rate of interest that the account or fund will receive on the loan.
- 66006 (b) (1) (H): A summary of any refunds made, and their respective amount, due to sufficient funds being collected to complete financing of scheduled public improvements and the amount of reallocation of funds made due to administrative costs of refunding unexpended revenues exceeding the amount to be refunded.

State law requires the City to prepare and make available to the public the above information within 180 days after the last day of each fiscal year. The City Council must review the annual report at the next regularly scheduled public meeting not less than fifteen days after the information is made available to the public. This report was posted on the City's website and made available at the City Clerk's office for public review on November 19, 2025.

Five-Year Report

California Government Code Section 66001 (d) (1) requires the local agency make all of the following findings every fifth year with respect to that portion of the account remaining unexpended, whether encumbered to a specific project or remaining unencumbered in an impact fee fund.

- 66001 (d) (1) (A): Identify the purpose to which the fee is to be put.
- 66001 (d) (1) (B): Demonstrate a reasonable relationship between the fee and purpose for which it is charged.
- 66001 (d) (1) (C): Identify all sources and amounts of funding anticipated to complete financing in incomplete improvements.
- 66001 (d) (1) (D): Designate the approximate dates on which the funding is expected to be deposited into the appropriate account or fund.

Establishing a Reasonable Relationship Between the Fee and the Purpose for Which It Is Charged

Development Impact Fees provide the proportionate share of the funding for the City's capital facilities needs that can be reasonably attributed to new growth in the City. The revenue, in turn provides the transportation facilities, water and wastewater infrastructure, parkland, and library improvements, necessary to mitigate the impacts of new residential, commercial, and industrial development on the City of Benicia and its residents and businesses.

To ensure a reasonable relationship between the fee and the purpose for which it is charged, Development Impact Fees in the City of Benicia are derived based on mathematical calculations that consider future development, the facilities and infrastructure needed to serve that future development, and the estimated costs of those improvements. These mathematical calculations establish the relationship between contemplated future development, the facilities needed to serve that development, and the estimated costs of those improvements based on the City's Capital Improvement Plan (CIP). The Development Impact Fees are then used to fund facilities and infrastructure necessary to serve new development. Absent a comprehensive impact fee update, the Development Impact Fees are typically adjusted annually in accordance with the Engineering News Record Construction Cost Index.

Funding of Infrastructure

The State of California Government Code Section 66002 states that local agencies that have developed a fee program may adopt a CIP indicating the approximate location, size, and timing of projects, plus an estimate for the cost of all facilities or improvements to be financed by fees. The City of Benicia has developed and adopted a CIP. The City's current CIP (2019/20 – 2024/25, adopted May 28, 2019) can be found on the City's website at www.ci.benicia.ca.us.

As a CIP project is identified, the project is evaluated to determine the portion of the project that will serve existing residents and businesses versus new development. This analysis is used to determine the portion of the project that is eligible to receive impact fee funding. The anticipated funding and commencement dates for projects are indicated and may be adjusted, as needed, to reflect the needs of the community, funding constraints, and development priorities. Any modification of impact fee funding within the CIP requires Council action. CIP budget adjustments occur as needed wherein staff seeks City Council approval to modify the CIP list of projects, or to modify the budget allocated to specific CIP projects.

AB 602, which was adopted in 2021 and amends the Mitigation Fee Act, requires adoption of a CIP along with the adoption of a fee program, effective January 1, 2022. The City's Impact Fee programs were adopted prior to January 1, 2022, but the requirements of AB 602 will apply to future updates. Under Government Code 66016.5, AB 602 requires that "large jurisdictions shall adopt a capital improvement plan as a part of the nexus study." Under Government Code 66002, "any local agency which levies a fee subject to Section 66001 may adopt a capital improvement plan, which shall indicate the approximate location, size, time of availability, and estimates of cost for all facilities or improvements to be financed with the fees."

ANNUAL REPORT

Description of Impact Fee Programs

66006(b)(1)(A) and 66013(d)(1)

The City has five development impact fee programs. Per City policy, the Parkland Improvement Impact Fee is only charged to new, non-subdivision, residential development in the City, and the Library Impact Fee is only charged to new residential development. The Transportation Impact Fee and the Water and Wastewater Capacity Fees are charged to all new development.

1. **Transportation Impact Fee (BMC 5.38).** The transportation fee is a one-time charge that the City charges to new development. The purpose of this fee is to fund planning, design, development, and construction of auto-oriented and multimodal transportation improvements which are reasonably necessary to mitigate the impacts of future development on the City's circulation network. Such improvements include, but are not limited to, roadway improvements, signalization improvements, other public right-of-way improvements such as bus shelters, and multimodal improvements, such as bikeways and sidewalks.
2. **Parkland Improvement Impact Fee (BMC 5.39).** The parkland improvement fee is a one-time charge that the City charges to new non-subdivision residential development to fund the planning, designing, developing, and improving of the City's parkland and trails. The purpose of the fee is to mitigate the impact of new development on the need for improved parkland and trails in the City.
3. **Library Impact Fee (BMC 5.37).** The library fee is a one-time charge that the City charges to new residential development. The purpose of the fee is to fund improvements to the City's library reasonably needed to serve new development, such as capital investments in the technology that supports the library systems, expansions of library infrastructure and facilities, and expansion of the quality and quantity of the collection held within the City's library.
4. **Water Capacity Fee (BMC 13.12.050).** The water capacity fee is a one-time charge that the City imposes on residential and non-residential customers that require new or expanded connections to the City's water system. The purpose of this fee is to fund a proportionate share of the costs of existing and future water system facilities and assets that are reasonably necessary to provide water capacity for new or expanded water connections.[1]
5. **Wastewater Capacity Fee (BMC 13.52.040).** The wastewater (also referred to as "sewer") capacity fee is a one-time charge that the City imposes on residential and non-residential customers that require new or expanded connections to the City's wastewater system. The purpose of this fee is to fund a proportionate share of the costs of existing

[1] The water and wastewater capacity fees are subject to the reporting requirements in Government Code section 66013(d), rather than the requirements in sections 66006(b) and 66001(d). However, this information is included in the annual report of Development Impact Fees consistent with section 66013(e).

and future wastewater system facilities and assets that are reasonably necessary to provide wastewater capacity to new or expanded wastewater connections.

Current Impact Fee Schedules

66006(b)(1)(B)

A comprehensive evaluation of the City's five impact fee programs was undertaken in 2020 and the update was presented to the City Council at the December 15, 2020 Public Hearing and adopted at the January 5, 2021 meeting. The adopted library, parkland improvement, transportation, and water capacity fees were phased in, with the first phase going into effect on March 8, 2021 and the second (and final) phase going into effect on July 1, 2022.[2] The adopted wastewater capacity fees were not phased in and went into effect on March 8, 2021. In the following section, the fees that were in effect during the fiscal year ending June 30, 2025 are presented.

[2] See Resolution 21-2.

Transportation Impact Fees

The Transportation Impact Fees in effect during the fiscal year ending June 30, 2025 are presented below in **Table 1**.

Table 1 Transportation Impact Fees

Land Use	Transportation Improvement Impact Fee Current Fee *effective 7/1/24*
Residential	*Fee Amount per Unit*
Single Family Unit	$6,305
Multifamily Unit	$3,530
Accessory Dwelling Unit [1] (≥ 750 sq.ft.)	*varies in proportion to size of primary residence*
Affordable Housing Unit [2]	*varies by percentage of affordable housing units created*
Nonresidential	*Fee Amount per 1,000 Building Square Feet (except lodging)*
Retail/Commercial	$8,196
Service/Commercial	$17,086
Institutional/Assembly	$1,198
Office	$5,864
Lodging *(fees are per room)*	$2,207
Industrial	$7,944
Warehouse/Distribution	$2,396
Nonresidential Agricultural Accessory Structures	$2,270

[1] Senate Bill 13 (effective 1/1/2020 - 12/31/2024) precludes jurisdictions from charging impact fees on ADUs under 750 square feet. Gov. Code 65852.2(f)(3)(A) requires that fees charged to ADUs 750 square feet or larger pay fees in proportion to the size of the primary residence. For example, if a proposed ADU is 800 square feet, and the primary residence is 2,400 square feet, impact fees will be 1/3 of the single family fee (800 / 2,400 = 33.3%).
[2] Each affordable housing unit constructed as part of a multi-family residential development project shall pay a reduced fee that is equal to the percentage of affordable housing units created by the project, rounded up to the nearest whole percent, and capped at 50%. For example, if a 20-unit multi-family housing development included 9 affordable housing units (45%), then the impact fees charged for the affordable housing units in the multi-family development project would be reduced by 45%.

Parkland Improvement Impact Fees

The Parkland Improvement Impact Fees in effect during the fiscal year ending June 30, 2025 are presented below in **Table 2**.

Table 1 Parkland Improvement Impact Fees

Land Use	Parkland Improvement Impact Fee Current Fee *effective 7/1/24*
Residential	*Fee Amount per Unit*
Single Family Unit	$8,789
Multifamily Unit	$6,821
Accessory Dwelling Unit [1] (≥ 750 sq.ft.)	*varies in proportion to size of primary residence*
Affordable Housing Unit [2]	*varies by percentage of affordable housing units created*

[1] Senate Bill 13 (effective 1/1/2020 - 12/31/2024) precludes jurisdictions from charging impact fees on ADUs under 750 square feet. Gov. Code 65852.2(f)(3)(A) requires that fees charged to ADUs 750 square feet or larger pay fees in proportion to the size of the primary residence. For example, if a proposed ADU is 800 square feet, and the primary residence is 2,400 square feet, impact fees will be 1/3 of the single family fee (800 / 2,400 = 33.3%).

[2] Each affordable housing unit constructed as part of a multi-family residential development project shall pay a reduced fee that is equal to the percentage of affordable housing units created by the project, rounded up to the nearest whole percent, and capped at 50%. For example, if a 20-unit multi-family housing development included 9 affordable housing units (45%), then the impact fees charged for the affordable housing units in the multi-family development project would be reduced by 45%.

Library Improvement Impact Fees

The Library Improvement Impact Fees in effect during the fiscal year ending June 30, 2025 are presented below in **Table 3**.

Table 3 Library Improvement Impact Fees

Land Use	Library Impact Fee Current Fee *effective 7/1/24*
Residential	*Fee Amount per Unit*
Single Family Unit	$381
Multifamily Unit	$295
Accessory Dwelling Unit [1] (≥ 750 sq.ft.)	*varies in proportion to size of primary residence*
Affordable Housing Unit [2]	*varies by percentage of affordable housing units created*

[1] Senate Bill 13 (effective 1/1/2020 - 12/31/2024) precludes jurisdictions from charging impact fees on ADUs under 750 square feet. Gov. Code 65852.2(f)(3)(A) requires that fees charged to ADUs 750 square feet or larger pay fees in proportion to the size of the primary residence. For example, if a proposed ADU is 800 square feet, and the primary residence is 2,400 square feet, impact fees will be 1/3 of the single family fee (800 / 2,400 = 33.3%).

[2] Each affordable housing unit constructed as part of a multi-family residential development project shall pay a reduced fee that is equal to the percentage of affordable housing units created by the project, rounded up to the nearest whole percent, and capped at 50%. For example, if a 20-unit multi-family housing development included 9 affordable housing units (45%), then the impact fees charged for the affordable housing units in the multi-family development project would be reduced by 45%.

Water Capacity Fees

The Water Capacity Fees in effect during the fiscal year ending June 30, 2025 are presented below in **Table 4**.

Table 2 Water Capacity Fees

Land Use	Water Capacity Fees	
	Prior Fee *effective 7/1/24*	Current Fee *effective 1/18/25*
Residential		
	Fee Amount per Unit	
Single Family Unit	$13,515	$17,909
Multifamily Unit	$9,215	$12,211
	Fee Amount per Sq.Ft.	
Accessory Dwelling Unit [1]	$4.82	$6.39
Affordable Housing Unit [2]	*varies by percentage of affordable housing units*	*varies by percentage of affordable housing units*
Nonresidential	*Fee Amount per Meter Size*	
Up to 3/4-inch	$13,515	$17,909
1-inch	$22,527	$29,848
1-1/2-inch	$45,052	$59,697
2-inch	$72,084	$95,514
3-inch	$135,157	$179,089
4-inch	$225,262	$298,481
6-inch	$450,525	$596,960
8-inch	$720,840	$955,138

[1] ADUs are currently charged a fixed capacity fee. However, pursuant to SB 13 (effective 1/1/2020-12/31/2024), the updated water capacity fee structure charges a per square foot fee for all ADUs.

[2] Each affordable housing unit constructed as part of a multi-family residential development project shall pay a reduced fee that is equal to the percentage of affordable housing units created by the project, rounded up to the nearest whole percent, and capped at 50%. For example, if a 20-unit multi-family housing development included 9 affordable housing units (45%), then the impact fees charged for the affordable housing units in the multi-family development project would be reduced by 45%.

Wastewater Capacity Fees

The Wastewater Capacity Fees in effect during the fiscal year ending June 30, 2025 are presented below in **Table 5** (Residential Fees) and **Table 5** (Nonresidential Fees).

Table 3 Residential Wastewater Capacity Fees

Land Use	Water Capacity Fees: Prior Fee *effective 7/1/24*	Water Capacity Fees: Current Fee *effective 1/18/25*
Residential		
	Fee Amount per Unit	
Single Family Unit	$13,515	$17,909
Multifamily Unit	$9,215	$12,211
	Fee Amount per Sq.Ft.	
Accessory Dwelling Unit [1]	$4.82	$6.39
Affordable Housing Unit [2]	*varies by percentage of affordable housing units*	*varies by percentage of affordable housing units*
Nonresidential	*Fee Amount per Meter Size*	
Up to 3/4-inch	$13,515	$17,909
1-inch	$22,527	$29,848
1-1/2-inch	$45,052	$59,697
2-inch	$72,084	$95,514
3-inch	$135,157	$179,089
4-inch	$225,262	$298,481
6-inch	$450,525	$596,960
8-inch	$720,840	$955,138

[1] ADUs are currently charged a fixed capacity fee. However, pursuant to SB 13 (effective 1/1/2020-12/31/2024), the updated water capacity fee structure charges a per square foot fee for all ADUs.

[2] Each affordable housing unit constructed as part of a multi-family residential development project shall pay a reduced fee that is equal to the percentage of affordable housing units created by the project, rounded up to the nearest whole percent, and capped at 50%. For example, if a 20-unit multi-family housing development included 9 affordable housing units (45%), then the impact fees charged for the affordable housing units in the multi-family development project would be reduced by 45%.

Table 4 Nonresidential Wastewater Capacity Fees

Meter Size	Wastewater Capacity Fees					
	Prior Fee *effective 7/1/24*			Current Fee *effective 1/18/25*		
Nonresidential	*Fee Amount per Meter Size and Strength Classification*					
	Class A	*Class B*	*Class C*	*Class A*	*Class B*	*Class C*
Up to 3/4-inch	$19,875	$21,737	$24,934	$26,334	$28,787	$33,003
1-inch	$33,087	$36,186	$41,511	$43,838	$47,924	$54,941
1-1/2-inch	$66,287	$72,497	$83,163	$87,826	$96,013	$110,069
2-inch	$106,036	$115,971	$133,031	$140,492	$153,588	$176,073
3-inch	$198,746	$217,367	$249,346	$263,330	$287,874	$330,021
4-inch	$331,206	$362,238	$415,530	$438,834	$479,734	$549,972
6-inch	$662,524	$724,599	$831,200	$877,818	$959,633	$1,100,132
8-inch	$1,060,017	$1,159,333	$1,329,893	$1,404,479	$1,535,380	$1,760,173

Industrial & Non-Standard Commercial	Wastewater Capacity Fees Current Fee *effective 1/18/25* *Fee Amount Based on Estimated Sewer Flow & Strength Loadings*
Flow Charge (per gpd)	$135.67
BOD Charge (per lb/year)	$17.59
SS Charge (per lb/year)	$12.95

Annual Financial Summary

Table 5 Annual Financial Summary
Statement of All Impact Fee Programs' Revenues, Expenditures, and Changes in Fund Balance For the Fiscal Year Ending June 30, 2025

Description	Development Impact Fee Program				
	Transportation	Park Improvement	Library	Water	Wastewater
REVENUES					
Fees	$40,809	$11,280	$489	$20,446	$23,602
Interest	$602	$10,248	$135	$112,505	$288,473
Total Revenues	**$114,061**	**$21,661**	**$624**	**$132,950**	**$312,075**
EXPENDITURES					
Capital Improvements	$0	$0	$0	$0	$0
Loan Payments	$0	$0	$0	$0	$0
Other Expenditures	$45,925	$0	$0	$0	$3,134
Total Expenditures	**$45,925**	**$0**	**$0**	**$0**	**$3,134**
REVENUES OVER (UNDER) EXPENDITURES	**$68,136**	**$21,661**	**$624**	**$132,950**	**$308,941**
Fund Balance, Beginning of Year	**$16,212**	**$285,185**	**$3,704**	**$3,137,132**	**$8,064,225**
Prior Year(s) Budgeted Commitments	$68,136	$21,661	$624	$132,950	$308,941
Fund Balance, End of Year [1]	**$84,348**	**$306,846**	**$4,328**	**$3,270,082**	**$8,373,166**

[1] Fund Balance for FY 2024-25 is unaudited.

Transportation Impact Fee Fund

The following tables respond to Government Code Section *66006(b)(1)(C), (D), and (E)* for the Transportation Impact Fee Program.

Table 8 Transportation Impact Fee Fund
Statement of Revenue, Expenditures, and Changes in Fund Balance
Five Years, Ending June 30, 2025

Description	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
REVENUES					
Fees	$88,115	$10,621	$16,834	$3,570	$40,809
Interest [1]	$1,969	($687)	$984	$569	$602
Deferred Revenue	$0	$14,577	$0	$0	$0
Transfers In [2]	$0	$0	$0	$909	$72,650
Total Revenues	**$90,084**	**$24,511**	**$17,818**	**$5,048**	**$114,061**
EXPENDITURES					
Capital Improvements	$47,225	$927,890	$0	$0	$45,925
Loan Payments	$0	$0	$0	$0	$0
Other Expenditures [3]	$5,350	$8,800	$8,518	$8,944	$0
Total Expenditures	**$52,575**	**$936,690**	**$8,518**	**$8,944**	**$45,925**
REVENUES OVER (UNDER) EXPENDITURES	**$37,509**	**($912,179)**	**$9,300**	**($3,896)**	**$68,136**
Prior Year Fund Balance Adjustment [4]	$1,084	($1,276)	($10,924)	$654	($1,131)
Fund Balance, Beginning of Year	$898,249	$935,566	$11,286	$21,239	$16,212
Fund Balance, End of Year [5,6]	$936,842	$22,210	$20,585	$17,343	$84,348

[1] Interest is composed of loan interest revenue and investment earnings, which was negative in FY2022 and is allocated across City funds quarterly based on each fund's cash balance.

[2] FY24-25 Transfers In represents the Columbus Parkway/Rose Drive Improvement Project savings returned from Fund 521.

[3] Other Expenditures includes materials, supplies, and professional/technical consulting services.

[4] The line item accounts for fund balance adjustments required following the annual audit.

[5] Fund Balance excludes a non-cash fair market value adjustment of $1,321.94 for FY24/25

[6] Fund Balance for FY 2024-25 is unaudited.

Table 6 Transportation Impact Fee Fund

History of Expenditures
For the Fiscal Year Ending June 30, 2025

	Improvement Name	FY 2024/25	Total Project Costs	2024/25 Impact Fee Expenditures as a Percent of Total Project Costs
	Capital Expenditures	$45,925		
T-009	Columbus Parkway Widening	$45,925	$1,507,419	3.05%
	Subtotal, Capital Expenditures	**$45,925**		
	Other Expenditures			
	Allocation for City Staff	$0	n/a	
	Materials & Services	$0	n/a	
	Subtotal, Other Expenditures	**$0**		
	TOTAL	**$45,925**		

Parkland Improvement Impact Fee Fund

The following tables respond to Government Code Section *66006(b)(1)(C), (D), and (E)* for the Parkland Improvement Impact Fee Program.

Table 7 Parkland Improvement Impact Fee Fund
Statement of Revenue, Expenditures, and Changes in Fund Balance
Five Years, Ending June 30, 2025

Description	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
REVENUES					
Fees	$0	$16,555	$ 17,673	$3,753	$11,280
Interest [1]	$3,034	$853	$ 4,835	$10,828	$10,248
Loan Payments	$0	$0	$0	$0	$0
Transfers In [2]	$0	$0	$0	$349	$134
Total Revenues	**$3,034**	**$17,408**	**$22,508**	**$14,930**	**$21,661**
EXPENDITURES					
Capital Improvements	$50,928	$0	$0	$0	$0
Loan Payments	$0	$0	$0	$0	$0
Other Expenditures	$0	$0	$0	$0	$0
Total Expenditures	**$50,928**	**$0**	**$0**	**$0**	**$0**
REVENUES OVER (UNDER) EXPENDITURES	**($47,894)**	**$17,408**	**$22,508**	**$14,930**	**$21,661**
Fund Balance, Beginning of Year	$278,233	$230,339	$247,747	$270,255	$285,185
Fund Balance, End of Year [3,4]	**$230,339**	**$247,747**	**$270,255**	**$285,185**	**$306,846**

[1] Interest earnings from investments are allocated across City funds quarterly based on each fund's cash balance.
[2] FY2024-25 Transfers In represents investment earnings reclassed from non inactivated Fund 421 (Parkland In-lieu Quimby Fee)
[3] Fund Balance excludes a non-cash fair market value adjustment of $4,812.53 for FY24/25
[4] Fund Balance for FY 2024-25 is unaudited.

Table 8 Parkland Improvement Impact Fee Fund

History of Expenditures
For the Fiscal Year Ending June 30, 2025

Improvement Name	FY 2024/25	Total Project Costs	2024/25 Impact Fee Expenditures as a % of Total Project Costs
Capital Expenditures	$0	n/a	n/a
TOTAL, Capital Expenditures	**$0**		

Library Impact Fee Fund

The following tables respond to Government Code Section *66006(b)(1)(C), (D), and (E)* for the Library Impact Fee Program.

Table 12 Library Impact Fee Fund
Statement of Revenue, Expenditures, and Changes in Fund Balance
Five Years, Ending June 30, 2025

Description	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
REVENUES					
Fees	$0	$663	$741	$162	$489
Interest [1]	$36	$11	$89	$141	$135
Loan Payments	$0	$0	$0	$0	$0
Transfers In	$0	$0	$0	$14	$0
Total Revenues	**$36**	**$674**	**$830**	**$317**	**$624**
EXPENDITURES					
Capital Improvements [2]	$17,889	$0	$0	$0	$0
Loan Payments	$0	$0	$0	$0	$0
Other Expenditures	$0	$0	$0	$0	$0
Total Expenditures	**$17,889**	**$0**	**$0**	**$0**	**$0**
REVENUES OVER (UNDER) EXPENDITURES	**($17,853)**	**$674**	**$830**	**$317**	**$624**
Fund Balance, Beginning of Year	$19,736	$1,883	$2,557	$3,387	$3,704
Fund Balance, End of Year [3,4]	**$1,883**	**$2,557**	**$3,387**	**$3,704**	**$4,328**

[1] Interest earnings from investments are allocated across City funds quarterly based on each fund's cash balance.
[2] Expenditures were for circulation materials with a useful life of more than five years (e.g. Library Investments)
[3] Fund Balance excludes a non-cash fair market value adjustment of $67.89 for FY24/25
[4] Fund Balance for FY 2024-25 is unaudited.

Table 13 Library Impact Fee Fund
History of Expenditures
For the Fiscal Year Ending June 30, 2025

Improvement Name	FY 2024/25	Total Project Costs	2024/25 Impact Fee Expenditures as a % of Total Project Costs
Capital Expenditures	$0	n/a	n/a
TOTAL, Capital Expenditures	**$0**		
Materials & Services	$0.00	n/a	n/a
Subtotal, Related Project Management Expenditures	**$0**		
TOTAL	**$0**		

Water Capacity Fee Fund

The following tables respond to Government Code Section *66006(b)(1)(C), (D), and (E)* and Section *66013(d)(2), (3), and (4)(A) and (B)* for the Water Capacity Fee Program.

Table 9 Water Capacity Fee Fund
Statement of Revenue, Expenditures, and Changes in Fund Balance
Five Years, Ending June 30, 2025

Description	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
REVENUES					
Fees	$17,632	$52,402	$41,802	$38,495	$20,446
Interest [1]	$7,961	$22,487	$52,777	$116,819	$112,505
Deferred Revenue	$0	$18,690	$0	$0	$0
Transfers In [2]	$0	$0	$0	$3,736	$0
Total Revenues	**$25,593**	**$93,579**	**$94,579**	**$159,049**	**$132,950**
EXPENDITURES					
Capital Improvements	$0	$66,027	$28,944	$0	$0
Other Expenditures	$0	$53	$0	($386)	$0
Total Expenditures	**$0**	**$66,080**	**$28,944**	**($386)**	**$0**
REVENUES OVER (UNDER) EXPENDITURES	**$25,593**	**$27,499**	**$65,635**	**$159,436**	**$132,950**
Prior Year Fund Balance Adjustment [3]		$939	$998	$94,584	$0
Fund Balance, Beginning of Year	$2,763,395	$2,789,927	$2,817,477	$2,977,696	$3,137,132
Fund Balance, End of Year [4,5,6]	$2,788,988	$2,816,479	$2,883,112	$3,137,132	$3,270,082

[1] Interest is allocated across City funds quarterly based on each fund's cash balance.
[2] FY2023-24 Transfers In represents investment earnings that should've been received between FY20-24.
[3] The line item accounts for fund balance adjustments required following the annual audit.
[4] Fund Balance excludes a non-cash fair market value adjustment of $51,286.55 for FY24/25
[5] Fund Balance excludes $3,710,726.12 of Net Capital Assets.
[6] Fund Balance for FY 2024-25 is unaudited.

Table 10 Water Capacity Fee Fund
History of Expenditures
For the Fiscal Year Ending June 30, 2025

Improvement Name	FY 2024/25	Total Project Costs	2024/25 Impact Fee Expenditures as a % of Total Project Costs
Capital Expenditures	$0	n/a	n/a
Subtotal, Capital Expenditures	**$0**		
Related Project Management Expenditures	$0	n/a	n/a
Materials & Services	$0	n/a	n/a
Other	$0	n/a	n/a
Subtotal, Related Project Management Expenditures	**$0**		
TOTAL	**$0**		

Wastewater Capacity Fee Fund

The following tables respond to Government Code Section *66006(b)(1)(C), (D), and (E)* and Section *66013(d)(2), (3), and (4)(A) and (B)* for the Wastewater Capacity Fee Program.

Table 11 Wastewater Capacity Fee Fund

Statement of Revenue, Expenditures, and Changes in Fund Balance
Five Years, Ending June 30, 2025

Description	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
REVENUES					
Fees	$12,927	$34,018	$43,744	$44,430	$23,602
Interest [1]	$22,732	$43,548	$127,108	$305,189	$288,473
Deferred Revenue	$0	$29,337	$0	$0	$0
Transfers In	$0	$0	$0	$9,890	$0
Total Revenues	**$35,659**	**$106,903**	**$170,853**	**$359,509**	**$312,075**
EXPENDITURES					
Capital Improvements	$0	$0	$0	$0	$0
Loan Payments	$0	$0	$0	$0	$0
Other Expenditures [2]	$0	$0	$2,898	$3,043	$3,134
Total Expenditures	**$0**	**$0**	**$2,898**	**$3,043**	**$3,134**
REVENUES OVER (UNDER) EXPENDITURES	**$35,659**	**$106,903**	**$167,955**	**$356,466**	**$308,941**
Prior Year Fund Balance Adjustment [3]		$1,372	($11,493)		($1)
Fund Balance, Beginning of Year	$7,407,364	$7,444,395	$7,539,805	$7,707,759	$8,064,225
Fund Balance, End of Year [4,5,6]	$7,443,023	$7,551,298	$7,707,759	$8,064,226	$8,373,166

[1] Interest is allocated across City funds quarterly based on each fund's cash balance.
[2] This line iem accounts for expenses related to the IT & Finance management and maintenance of fund
[3] The line item accounts for fund balance adjustments required following the annual audit.
[4] Fund Balance excludes a non-cash fair market value adjustment of $131,321.01 for FY24/25
[5] Fund Balance excludes $13,876,900.25 of Net Capital Assets.
[6] Fund Balance for FY 2024-25 is unaudited.

Table 12 Wastewater Capacity Fee Fund
History of Expenditures
For the Fiscal Year Ending June 30, 2025

Improvement Name	FY 2024/25	Total Project Costs	2024/25 Impact Fee Expenditures as a % of Total Project Costs
Capital Expenditures	$0		
TOTAL, Capital Expenditures	**$0**	n/a	n/a
Related Project Management Expenditures	$0.00		
Materials & Services (Consultant Services)	$0.00		
Subtotal, Related Project Management Expenditures	**$0**		
TOTAL	**$0**		

Note: Consistent with the requirements of Government Code 66013(d)(4)(B), which governs reporting for water and wastewater capacity fees, the City indicates that there were no wastewater system improvements completed in FY 2024/25 for which impact fee revenue had been expended.

Approximate Date of Construction

66006(b)(1)(F)

Section 66006 (b) (1) (F) of the Mitigation Fee Act requires an identification of an approximate date by which the construction of when a public improvement will commence if the City determines that sufficient funds have been collected to complete financing on an incomplete public improvement, an identification of each public improvement identified in a previous report and whether construction began on the approximate date noted in the previous report, and, if a project did not start when estimated, the reason for the delay and a revised approximate date that the local agency will commence construction.

The Columbus Parkway/Rose Drive Improvement Project (associated with the Transportation Impact Fee Fund) construction contract was awarded to Redgwick Construction Co on May 21st, 2024. The Columbus Parkway/Rose Drive Improvement Project was accepted as complete on April 1st, 2025.

	Project Identified Last Year	Construction Start [Y/N]	If not, why?
Transportation	n/a	n/a	n/a
Library	n/a	n/a	n/a
Parkland	n/a	n/a	n/a

Completion of Projects funded by Capacity Fee

66013(d)(4)(B)

Section 66013 (d) (4) (B) of the Mitigation Fee Act requires an identification of each public improvement on which charges were expended that was completed during that fiscal year. There were not any projects completed in FY 2024/2025 that were partially or wholly funded with capacity fees.

Interfund Transfers or Loans

66006(b)(1)(G) and *66013(d)(5)*

Sections 66006 (b) (1) (G) and 66013 (d) (5) of the Mitigation Fee Act require a description of each interfund transfer or loan made from the account or fund, including the public improvement on which the transferred or loaned fees will be expended; and, in the case of an interfund loan, the terms of the loan, including the repayment schedule for the loan, and the rate of interest that the account or fund will receive on the loan.

In the fiscal year ended June 30, 2025, there were no interfund transfers or loans made from any of the impact fee or capacity fee funds.

Summary of Refunds

66006(b)(1)(H)

Section 66006 (b) (1) (H) of the Mitigation Fee Act requires a summary of any refunds made, and their respective amount, due to sufficient funds being collected to complete financing of scheduled public improvements and the amount of reallocation of funds made due to administrative costs of refunding unexpended revenues exceeding the amount to be refunded.

At this time, all fees collected have been earmarked for current or future capital projects necessary to maintain the current levels of service to serve new development. There were no refunds made from any of the impact fee or capacity fee funds.

FIVE-YEAR FINDINGS

California Government Code Section 66001(d)(1) requires the City to make findings every fifth year with respect to that portion of each impact fee account that remains unexpended, whether encumbered to a specific project or remaining unencumbered in an impact fee fund. As of June 30, 2025, all five funds have unexpended balances, as indicated on **Table 8**, **Table 10**, **Table 12**, **Table 14**, and **Table 16**. Therefore, the City is reporting the following findings relating to each of the fee programs.

- 66001(d)(1)(A): Identify the purpose to which the fee is to be put.
- 66001(d)(1)(B): Demonstrate a reasonable relationship between the fee and purpose for which it is charged.
- 66001(d)(1)(C): Identify all sources and amounts of funding anticipated to complete financing in incomplete improvements.
- 66001(d)(1)(D): Designate the approximate dates on which the funding is expected to be deposited into the appropriate account or fund.

Transportation Impact Fee

- The purpose of the transportation impact fee is to mitigate the impact of new development on the need for roadway improvements, signalization improvements, other public right-of-way improvements such as bus shelters, and multimodal improvements, such as bikeways and sidewalks.
- The transportation impact fee is set at a level to ensure that as new development occurs, it contributes a proportionate share of costs to fund improvements that mitigate the impacts of future development on the City's circulation network. The methodology is documented in the Nexus Study and ensures that there is a reasonable relationship between the fee and the purpose for which it charged.
- There is an unexpended balance in the transportation impact fee fund, which is expected to be used to fund the Park Road improvements which are needed to mitigate the impacts of future development on the City's circulation network.
- The estimated timing and cost of the project are shown below in **Table 18**. This project is described in the City's CIP and is expected to begin in FY 2028/29. The balance of the project costs is expected to be funded with RMRA & Gas Tax revenue.

Table 18 Development Fee Project Identification: Transportation

Project Number	Project Name	CIP	Project Phase	Estimated Start Year	Total Project Cost	% Funded with Impact Fee Revenue	Amount Funded with Impact Fee Revenue	Other Funding Sources
T-144	Park Road Improvement Project	Yes	Planning	2028/29	$5,000,000	50.0%	$2,500,000	Gas Tax and RMRA

Parkland Improvement Impact Fee

- The purpose of the parkland improvement fee is to mitigate the impact of new development on the need for improved parkland and trails in the City so that the ratio of improved parkland and trails per 1,000 residents is maintained as the City's population increases.
- The parkland improvement fee is set at a level to ensure that as new development occurs, the associated growth in the City's resident population will not negatively impact the City's ability to maintain the current ratio of improved parkland and trails per 1,000 residents. The fee generates revenue that the City can then use to fund parkland and trail improvements that expand the City's inventory of improved parkland and trails. This methodology is documented in the Nexus Study and ensures that there is a reasonable relationship between the fee and the purpose for which it charged.
- There is an unexpended balance in the parkland improvement fee fund, which is expected to be used to fund improvements to the Urban Waterfront Enhancement and Implementation of the Bay Trail and Plaza Recommendations.
- The estimated timing and cost of the project are shown below in **Table 19**. This project is described in the City's CIP and is expected to begin in FY 2028/29. The balance of the project costs is expected to be funded with possible grant revenue.
- The project was originally scheduled to begin in FY2025/26. The project was delayed due to the need for additional impact fee funding.

Table 13 Development Fee Project Identification: Parks

Project Number	Project Name	CIP	Project Phase	Estimated Start Year	Total Project Cost	% Funded with Impact Fee Revenue	Amount Funded with Impact Fee Revenue	Other Funding Sources
P-042	Urban Waterfront Enhancement (Waterfront Park); Implementation of Bay Trail and Plaza Recommendations	Yes	Planned	2028/29	$2,000,000	50.0%	$1,000,000	Possible grant funding

Library Impact Fee

- The purpose of the library impact fee is to mitigate the impact of new residential development on the need for library infrastructure and facilities and to expand the quantity of the collection held within the City's library so that the current level of service can be maintained as the City's population increases.
- The library fee is a one-time charge that the City charges to new residential development to ensure that as new residential development occurs, the associated growth in the City's resident population will not negatively impact the City's ability to maintain the current level of service. The fee generates revenue that the City can then use to fund improvements to the City's library that are reasonably needed to serve new development, such as capital investments in the technology that supports the library systems, expansions of library infrastructure and facilities, and expansion of the quantity of the collection held within the City's library.
- There is an unexpended balance in the library impact fee fund, which is expected to be used to fund improvements to finishing the basement space in the library, which will allow the currently unfinished space to be used for library events and expanded programming.

- The estimated timing and cost of the project are shown below in **Table 20**. This project is described in the City's CIP and is expected to begin in FY 2025/26. The balance of the project costs is expected to be funded with grants and other revenue.
  - The project was originally scheduled to begin in FY 2023/24. The project was delayed due to the need for additional impact fee funding, the need for city council approval, and the Valero announcement in Spring 2025. Per the City Council on March 18th, 2025 Staff are to bring the project back to the Council at a future date for further discussion and direction on whether to take the Project to bid, once the design scope and cost estimate are completed.

Table 20 Development Fee Project Identification: Library

Project Number	Project Name	CIP	Project Phase	Estimated Start Year	Total Project Cost	% Funded with Impact Fee Revenue	Amount Funded with Impact Fee Revenue	Other Funding Sources
BR-006	Library Basement Finishing	Yes	Planned	2025/26	$914,000	0.5%	$5,000	Grants and other revenue

Water Capacity Fee

The following water section also satisfies Government Code Section 66013(d)(4)(C) by identifying each public improvement that is anticipated to be undertaken in the following year.

- The purpose of the water capacity fee is to fund a proportionate share of the costs of existing and future water system facilities and assets that are reasonably necessary to provide water capacity for new or expanded water connections.
- The fees are based on an average cost approach under which new or expanded connections would fund their proportionate share of costs for capacity needed in existing and planned water system facilities and assets. Under this approach, new connections pay for their proportionate share of the average cost of facilities needed to meet the demands of the City's service area through projected build-out in 2040. This methodology ensures that there is a reasonable relationship between the fee and the purpose for which it is charged and is documented in the Water & Wastewater Capacity Fee Update study, prepared November 2020 and available on the City's website.
- There is an unexpended balance in the water capacity fee fund, which is expected to be used to fund improvements to the water system facilities and assets. The projects are described in the 2020 Water Condition Assessment, prepared by the engineering firm Stantec and based on input from the City's engineering staff.
- The 2020 Capital Improvement Plan for Water is currently undergoing a condition assessment and update. Projects listed below are included in this year's report for consistency with prior year annual reports. All funds previously collected and unexpended will be used to fund the identified projects below. All others will be assessed to be determined if the improvements will be included in the Updated CIP.
- The estimated timing and cost of the project are shown below in **Table 21**. To the extent a specific project cannot be fully funded with capacity fee revenue, the balance of the costs is expected to be funded with ratepayer revenue.

Table 14 Development Fee Project Identification: Water

Project Number	Project Name	2020 Condition Assessment	Project Phase	Estimated Start Year	Total Project Cost	% Funded with Impact Fee Revenue	Amount Funded with Impact Fee Revenue	Other Funding Sources
N/A	Lopes Road Raw Water Transmission Line Permanent Restoration	N/A (Emergency)	Design Underway	2025/26	$11,800,000.00	27%	$3,200,000	Rates
WD-006	Reliability Transmission Main from WTP	Yes	Planned	2027/28	$5,398,000	31%	$1,649,389	Rates
RW-001	Lake Herman Pump Station Improvements	Yes	Planned	2025/26	$2,945,000	100%	$2,945,000	N/A
WD-012	Jackson St Reliability Loop	Yes	Planned	2025/26	$418,000	100%	$418,000	N/A
WTP-019	WTP SCADA Improvements	Yes	Planned	2026/27	$1,977,000	100%	$1,977,000	N/A
WTP-016	Finish Water Sample Pump	Yes	Planned	2028/29	$406,000	100%	$406,000	N/A
WTP-017	Power Distribution Upgrade	Yes	Planned	2028/29	$3,073,000	100%	$3,073,000	N/A
WTP-018	Emergency Standby Power Upgrade	Yes	Planned	2024/25	$930,000	100%	$930,000	N/A
BPS-002	Booster Pump Station - 2	Yes	Planned	2026/27	$3,636,000	50%	$1,818,000	Rates
BPS-003	Booster Pump Station - 3	Yes	Planned	2026/27	$2,628,000	50%	$1,314,000	Rates
RW-002	Cordelia Pump Station Improvements	Yes	Planned	2025/26	$6,802,000	100%	$6,802,000	N/A
RW-003	Parallel Raw Water Transmission Line	Yes	Planned	2026/27	$116,594,000	100%	$116,594,000	N/A
WD-014	Vallejo Treated Water Intertie	Yes	Planned	2026/27	$7,803,000	100%	$7,803,000	N/A
WTP-027	Ozonation System	Yes	Planned	2026/27	$24,768,000	100%	$24,768,000	N/A
WTP-007	Filter Pipe Gallery Improvements	Yes	Planned	2026/27	$832,000	100%	$832,000	N/A

Wastewater Capacity Fee

The following wastewater section also satisfies Government Code Section 66013(d)(4)(C) by identifying each public improvement that is anticipated to be undertaken in the following year.

- The purpose of the wastewater capacity fee is to fund a proportionate share of the costs of existing and future water system facilities and assets that are reasonably necessary to provide wastewater capacity for new or expanded water connections. The fees are based on an average cost approach under which new or expanded connections would fund their proportionate share of costs for capacity needed in existing and planned wastewater system facilities and assets. Under this approach, new connections pay for their proportionate share of average cost of facilities needed to meet the demands of the City's service area through projected build-out in 2040. This methodology ensures that there is a reasonable relationship between the fee and the purpose for which it is charged and is documented in the Water & Wastewater Capacity Fee Update study, prepared November 2020 and available on the City's website.
- There is an unexpended balance in the wastewater capacity fee fund, which is expected to be used to fund improvements to the wastewater system facilities and assets. The projects are described in the 2020 Water Condition Assessment, prepared by the engineering firm Stantec and based on input from the City's engineering staff.
- The 2020 Capital Improvement Plan for Wastewater is currently undergoing a condition assessment and update. Projects listed below are included in this year's report for consistency with prior year annual reports. All funds previously collected and unexpended will be used to fund the identified projects below. All others will be assessed to be determined if the improvements will be included in the Updated CIP.
- The estimated timing and cost of the project are shown below in **Table 22**. To the extent a specific project cannot be fully funded with capacity fee revenue, the balance of the costs is expected to be funded with ratepayer revenue.

Table 15 Development Fee Project Identification: Wastewater

Project Number	Project Name	2020 Condition Assessment	Project Phase	Estimated Start Year	Total Project Cost	% Funded with Impact Fee Revenue	Amount Funded with Impact Fee Revenue	Other Funding Sources
LS-001	Lift Stations Electrical Improvements	Yes	Planned	2028/29	$1,944,000	100%	$1,944,000	N/A
LS-003	E 7th Street & B St Lift Station Improvements	Yes	Planned	2028/29	$995,000	100%	$995,000	N/A
WWTP-025	ECR-1 and ECR-2 Electrical Disbution Modifications	Yes	Planned	2029/30	$2,961,000	50%	$1,480,500	Rates
WWTP-013	Effluent Diversion (Wrap Around) Pipe Replacement	Yes	Planned	2027/28	$210,000	50%	$105,000	Rates
WWC-023	Park Road Forcemain	Yes	Planned	2027/28	$2,789,000	50%	$1,394,500	Rates
WWC-019	Bayshore Road	Yes	Planned	2026/27	$3,222,000	27%	$854,816	Rates
WWTP-026	MCC Modifications and Improvements	Yes	Planned	2026/27	$8,711,000	100%	$8,711,000	N/A
WWTP-033	Plant Site Civil Improvements	Yes	Planned	2029/30	$168,000	100%	$168,000	N/A
LS-004	Lift Station Improvements	Yes	Planned	2028/29	$905,000	100%	$905,000	N/A
LS-002	Barn & Park Lift Station Improvements	Yes	Planned	2028/29	$1,403,000	100%	$1,403,000	N/A
WWC-001	181 East K St Sewer Replacement	Yes	Planned	2025/26	$750,000	25%	$187,500	Rates
WWC-006	500 East H St Sewer Replacement	Yes	Planned	2025/26	$500,000	25%	$125,000	Rates
Project removed due to lower cost than expected; now using 100% rates to fund								
WWTP-029	Control System Improvements	Yes	Underway	2023/24	$665,000	0%	$0	Rates

AGENDA ITEM
CITY COUNCIL MEETING DATE – DECEMBER 16, 2025
CONSENT CALENDAR

TO : City Manager

FROM : Assistant City Manager

SUBJECT : **HOUSING ELEMENT IMPLEMENTATION AMENDMENTS**

EXECUTIVE SUMMARY:

Amendments to the Benicia Municipal Code would implement Housing Element programs and comply with recent state housing laws. Proposed amendments address accessory dwelling units, rebuilding multifamily dwellings, multi-unit development in the RS district, view protection, condominium conversions, and small lot subdivisions. Amendments would also reorganize the Zoning Ordinance to locate all provisions related to state housing law in one chapter.

The City Council conducted a public hearing, waived the first reading and introduced the ordinance during a duly noticed public hearing on December 2, 2025.

RECOMMENDATION:

Adopt the ordinance amending the Benicia Municipal Code (BMC) after a determination that the project is exempt from the California Environmental Quality Act (CEQA).

BUDGET INFORMATION:

The proposed text amendments would not directly affect the City's budget.

BACKGROUND:

On February 28, 2024, the City Council adopted the 2023-2031 Housing Element of the General Plan. The Housing Element is the foundation for City housing policy as required by state law. On April 4, 2025, the California Department of Housing and Community Development ("HCD") certified the Housing Element and found it in compliance with state law. To maintain compliance with state law, the City must implement Housing Element programs within a specified timeframe and provide a report to HCD each year. Housing Element programs call for Zoning Ordinance amendments which must be completed by the end of 2025.

Overview of Amendments

The ordinance would amend the BMC to implement Housing Element programs and comply with state housing law.

- **Accessory dwelling units**: Revises permit requirements and development standards for accessory dwelling units and junior accessory dwelling units to comply with recently adopted state law.
- **Condominium conversions**: Updates existing condominium conversion ordinance, established in 1987, to align with current best practices and state law.
- **Small lot subdivisions**: Allows ministerial approval of qualifying small-lot subdivisions with ten or fewer parcels and units consistent with state law.
- **Rebuilding multifamily dwellings**: Allows reconstruction of non-conforming multi-family residential structures destroyed by a hazardous event as required by state law.
- **Multi-Unit Development in the RS District**: On parcels adjacent to minor arterial roadways in Southampton, increases allowed height and floor area for multi-unit development allowed by state law (SB 9).
- **View Protection**: Establishes new objective view protection standards.
- **Reorganized Housing Chapter**: Locates all Zoning Ordinance provisions that implement state housing laws together in one chapter.
- **References**: Update all BMC references to reflect changed section numbering in reorganized housing chapter.

NEXT STEPS:
If adopted, the BMC amendments would become effective 30 days after adoption.

ALTERNATIVE ACTIONS:
The Council may choose not to adopt the amendments or provide alternate direction.

CEQA Analysis	The proposed Zoning Ordinance Amendments are exempt from CEQA, pursuant to CEQA Guidelines Section 15061(b)(3), which provides that a project is exempt from CEQA if the activity is covered by the commonsense exemption that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA. In addition, the proposed Zoning Ordinance Amendments implement Housing Element programs that were analyzed in the Environmental Impact Report for the 2023-2031 Housing Element and Safety Element Updates. These amendments do not increase development potential beyond levels analyzed in the EIR. The amendments make changes to the Zoning Ordinance to comply with state housing laws, bringing the Zoning Ordinance into compliance with state requirements that already apply to proposed development. Proposed Zoning Ordinance Amendments to address issues unrelated to the Housing Element implement state law, correct internal inconsistencies, and resolve conflicting requirements. These amendments clarify existing requirements and expectations and will not have any significant effect on the environment.

ATTACHMENTS:

1. Proposed Ordinance Amending the Benicia Municipal Code

For more information contact: Jason Hade, AICP, Planning Manager
Phone: 707-746-4277
E-mail: jhade@ci.benicia.ca.us

CITY OF BENICIA

ORDINANCE NO. 25-___

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BENICIA AMENDING TITLE 16 (SUBDIVISIONS) AND TITLE 17 (ZONING) OF THE BENICIA MUNICIPAL CODE TO IMPLEMENT THE GENERAL PLAN HOUSING ELEMENT

WHEREAS, on January 24, 2023 the City Council adopted Resolution No. 23-7 and thereby certified the Final Environmental Impact Report 2023-2031 Housing Element & Safety Element Updates (SCH# 2022060021) (Final EIR) and on February 28, 2024, pursuant to Resolution No. 24-14, the City Council adopted the 2023-2031 Housing Element of the General Plan ("Housing Element") and Environmental Impact Report for the 2023-2031 Housing Element and Safety Element Updates; and

WHEREAS, on April 4, 2025, the California Department of Housing and Community Development ("HCD") found the Housing Element to be in compliance with state housing element law; and

WHEREAS, to maintain compliance with state housing element law, the City must diligently implement the programs of the Housing Element and provide an annual report to HCD each year; and

WHEREAS, Housing Element Program 1.06 calls for, among other things, the City to update objective standards for clarification of scenic views and vistas citywide at the same level of detail as those already adopted for the Arsenal; and

WHEREAS, Housing Element Program 1.12 calls for, among other things, the City to make Zoning Ordinance amendments every two years as needed to stay current with changes to state ADU law; and

WHEREAS, Housing Element Program 2.06 calls for, among other things, the City to increase permitted density to 15 du/ac on sites adjacent to minor arterials in Southampton and establish objective standards to facilitate maximum densities; and

WHEREAS, Housing Element Program 4.08 states that the City will amend the Zoning Ordinance to permit reconstruction of non-conforming multi-family residential structures if a hazardous event results in destruction of such units; and

WHEREAS, recently adopted state law (SB 684 in 2023, SB 1123 in 2024, and AB 103 in 2025) requires cities must ministerially approve qualifying small lot subdivisions with 10 or fewer parcels and 10 or fewer dwelling units; and

WHEREAS, provisions to implement state housing laws have been adopted over time and are currently dispersed in different sections of Title 17 of the Benicia Municipal Code (BMC) (Zoning Ordinance) without a consistent organizing structure; and

WHEREAS, the City has prepared proposed amendments to BMC Title 16 (Subdivisions) and Title 17 (Zoning) to implement Housing Element programs, comply with state housing law, and consolidate provisions related to state housing laws into one chapter in the Zoning Ordinance; and

WHEREAS, on June 26, 2025 the Planning Commission conducted a study session and accepted public comment on Housing Element implementation including proposed Zoning Ordinance amendments to implement the Housing Element; and

WHEREAS, in accordance with Government Code Section 21676 the proposed amendments to the Zoning Ordinance were submitted to the Airport Land Use Commission for a determination of consistency with the Airport Land Use Compatibility Plan; and

WHEREAS, the Planning Commission conducted a duly noticed public hearing at a regular meeting on November 13, 2025, and recommended the City Council adopt this Ordinance; and

WHEREAS, pursuant to the California Environmental Quality Act (CEQA), the City Council finds that the proposed amendments are covered by the EIR (certified January 24, 2023; State Clearinghouse Number 2022060021); the proposed amendments would not alter the physical environment in any manner that would result in a significant effect on the environment; additionally the proposed amendments are categorically exempt pursuant to the CEQA Guidelines Section 15061(b)(3) for projects with no potential to cause significant environmental impacts and Section 15282(h) for ordinances implementing state ADU law; and

WHEREAS, the City Council of the City of Benicia conducted a duly and properly noticed public hearing to take public testimony and consider this Ordinance.

THE CITY COUNCIL OF THE CITY OF BENICIA DOES ORDAIN AS FOLLOWS:

Section 1.

The City Council finds that each of the Recitals and Findings set forth above are true and correct, and by this reference incorporates those Recitals and Findings as an integral part of this Resolution. All Exhibits and Attachments hereto are hereby incorporated by reference.

The City Council further finds that this Ordinance is consistent with the purposes of Titles 16 and 17, and the following goals and policies of the Benicia General Plan Housing Element:

- **Goal 1**: Benicia shall be an active leader in attaining the goals of the City's Housing Element. The proposed Ordinance facilitates development of ADUs to provide new housing opportunities for lower-income households in Benicia.

- **Policy 1.04**: The City will review and revise regulatory standards necessary to comply with state housing law. The proposed DMUMP amendments are necessary to comply with state ADU law.

Section 2.

The following chapters and sections of the Benicia Municipal Code are repealed in their entirety and will be replaced in Chapter 17.90 as provided herein:

- 17.70.060: Accessory dwelling units
- 17.70.270: Affordable housing density bonus
- 17.70.280: Manufactured homes
- 17.70.320: Inclusionary housing
- 17.70.390: Emergency shelter
- 17.70.430: Objective planning and design standards for mixed use residential and multifamily development projects
- 17.70.440: Community benefits program
- 17.70.460: Employee housing (for farmworkers)
- 17.70.470: Housing for religious and community institutional uses
- 17.90: Condominium Conversions
- 17.94: Mobile Home Park Conversions
- 17.132: Reasonable Accommodation

Section 3.

Chapter 17.90 Housing is added to the Benicia Municipal Code to read as follows:

“Chapter 17.90 - Housing

Sections:

17.90.010 – Chapter purpose
17.90.020 – Accessory dwelling units and junior accessory dwelling units
17.90.030 – Affordable housing density bonus
17.90.040 – Manufactured homes
17.90.050 – Inclusionary housing
17.90.060 – Emergency shelters
17.90.070 – Objective design standards
17.90.080 – Community benefits program
17.90.090 – Employee housing
17.90.100 – Condominium conversions
17.90.110 – Mobile home conversions
17.90.120 – Reasonable accommodations
17.90.130 – Small lot subdivisions and development
17.90.140 – Rebuilding multifamily dwellings
17.90.150 – Multi-unit development in the RS district
17.90.160 – Housing for religious and community institutional uses

17.90.010 – Chapter purpose.

This chapter contains provisions to implement state housing laws and facilitate housing production in Benicia consistent with the city's general plan.

17.90.020 – Accessory dwelling units and junior accessory dwelling units.

A. **Purpose**. This section is intended to achieve the goals of the city's housing element and of the California Government Code by permitting accessory dwelling units (ADUs) and junior accessory dwelling units (JADUs), thereby increasing housing opportunities for the community through use of existing housing resources and infrastructure.

B. **Where Allowed.**

1. An ADU is permitted:
    a. In any district where single-family or multifamily dwellings are a permitted use; and
    b. On any lot with an existing or proposed single-family or multifamily dwelling.
2. A JADU is permitted:
    a. In any district where single-family dwellings are a permitted use; and
    b. On a lot with an existing or proposed single-family dwelling.

C. **Permitting Process.**

1. When Consistent with Standards.

    a. An ADU or JADU that complies with applicable standards in this section shall be approved ministerially upon issuance of a building permit. No other permit, discretionary review, or public hearing is required.

    b. The city shall determine whether an application to create an ADU or JADU is complete and provide written notice of this determination to the applicant not later than 15 working days after receiving the application.

    c. If the city determines an application is incomplete, the city shall provide the applicant with a list of incomplete items and a description of how the application can be made complete. The list and description shall be provided with the written notice required by subsection (b) above.

    d. After receiving a notice that the application was incomplete, an applicant may submit to the city additional application materials to cure and address the items that are deemed to be incomplete by the city.

    e. In the review of additional application materials submitted pursuant to paragraph (d) above, the city shall not require the application to include an item that was not included in the list required by subsection (b) above.

    f. If an applicant submits additional application materials pursuant to paragraph (d) above, the city shall determine whether the additional materials remedied all incomplete items listed in the determination issued pursuant to subsection (b) above. The city shall provide written notice of this determination to the applicant not later than 15 working days after receiving the additional materials.

    g. If the city does not make a timely determination as required by this subsection, the application shall be deemed to be complete.

    h. If an existing single-family or multifamily dwelling exists on the lot upon which an ADU or JADU is proposed, the city shall approve or deny the application to create the ADU or JADU within 60 days from the date the city receives a completed application. If the applicant requests a delay in writing, the 60-day time period shall be tolled for the period of the delay.

    i. If the city denies the application for an ADU or JADU, the city shall provide written comments to the applicant that list the items that are defective or deficient and describe how the application can be remedied by the applicant. Written comments shall be provided to the applicant not later than 15 working days after the city denies the application.

    j. If the city determines an application is incomplete under subsection (b) above or denies the application under subsection (i) above, the applicant may appeal the decision to the planning commission. The applicant may

appeal the planning commission decision to the city council. The city shall make a final decision on the appeal not later than 60 working days after receiving the applicant's written appeal.

2. When Deviating from Standards.

    a. A proposed ADU that deviates from the standards in subsection (J) of this section, Objective Design Standards, shall be reviewed and may be approved or denied subject to the design review procedures in Chapter 17.108 BMC, Design Review.

    b. A proposed ADU that deviates from standards in subsection (I) of this section, Development Standards, or any other applicable physical standard of this section, shall be reviewed and may be approved or denied subject to the variance procedures in Chapter 17.104 BMC, Use Permits and Variances.

3. When Dependent on Separate Construction.

    a. When a proposed attached or detached ADU is dependent on the construction of a new building or new portion of a building that is not a part of the ADU ("separate construction"), the city shall either:

        (1) Accept and begin processing the ADU application only after acting on an application for the proposed separate construction; or

        (2) Upon written request from the applicant, review and act on the ADU together with the separate construction as part of a single application. In this case, the ADU is subject to the same review procedures and requirements as the separate construction, which may include design review.

    b. New construction of a carriage unit shall not be considered dependent on separate construction if the footprint of the structure is the minimum size necessary to accommodate a garage up to 500 square feet and an interior stairwell provides direct access to the ADU in compliance with the requirements of the California Building Code.

4. Unpermitted ADUs and JADUs. The following provisions apply to a building permit application for a previously unpermitted ADU or JADU that was constructed before January 1, 2020.

    a. The city shall not deny a building permit due to the ADU or JADU's violation of building standards or its noncompliance with this section unless the building official or their designee deems the ADU or JADU substandard pursuant to Section 11720.3 of the Health and Safety Code.

    b. The city shall provide the applicant a checklist of the conditions specified in Section 17920.3 of the Health and Safety Code that would deem the ADU

or JADU substandard.

c. Prior to submission of a building permit application, the city shall inform the homeowner that they may obtain a confidential third-party code inspection from a licensed contractor to determine the ADU or JADU's existing condition or potential scope of building improvements before submitting a permit application.

d. A homeowner applying for a building permit is not required to pay impact fees or connection or capacity charges except when utility infrastructure is required to comply with Section 17920.3 of the Health and Safety Code.

e. Upon receiving a building permit application, the building inspector may inspect the unit for compliance with health and safety standards and provide recommendations to comply with the standards necessary to obtain a building permit. If the building inspector finds noncompliance with health and safety standards, the city shall not penalize the applicant and shall approve necessary permits to correct noncompliance with health and safety standards.

D. **Junior Accessory Dwelling Units.**

1. Number. No more than one JADU is allowed per residential lot within an existing or proposed single-family dwelling.

2. Separate Entrance. The JADU shall have a separate entrance from the primary dwelling unit.

3. Sanitation Facilities.

   a. A JADU may include sanitation facilities or may share sanitation facilities with the existing structure.

   b. A JADU that shares sanitation facilities with the existing structure shall include an interior entry to the main living area of the existing structure.

4. Kitchen. A JADU must include, at a minimum:

   a. A cooking facility with appliances; and

   b. At least three linear feet of food preparation counter space and three linear feet of cabinet space.

5. Owner-occupancy. If the JADU has shared sanitation facilities with the existing structure, one of the dwelling units on the site (either the primary unit or the JADU) shall be owner-occupied. Owner occupancy shall not be required if the JADU does not share sanitation facilities with the existing structure, or if the owner of the JADU is another governmental agency, land trust, or housing organization.

6. Term of Rental. A rented JADU shall not be leased for any period less than 30

days.

7. Deed Restriction. The JADU owner must record a deed restriction which shall run with the land and shall include both of the following:
    a. A prohibition on the sale of the JADU separate from the sale of the single-family residence, including a statement that the deed restriction may be enforced against future purchasers.
    b. A restriction on the size and attributes of the JADU that conforms with this section and Government Code Section 66333.

E. **Maximum Number Per Lot.** Not more than one ADU is allowed per lot except as allowed by subsection (G), Units subject to limited standards, of this section.

F. **Accessory Use.** An ADU that conforms to this section:
    1. Is considered an accessory use or accessory structure;
    2. Is not considered to exceed the allowable density for the lot upon which it is located; and
    3. Is considered a residential use consistent with the general plan and zoning designation for the lot.

G. **Units Subject to Limited Standards.** The city shall ministerially approve an application for a building permit within a residential or mixed-use district to create the following types of ADUs and JADUs, which may be combined as allowed by the site and lot conditions. For each type of ADU, the city shall require compliance only with the development standards in this subsection. Standards in subsections (I), Development Standards, and (J), Objective Design Standards, of this section do not apply to these types of ADUs.
    1. Internal ADUs. One ADU and one JADU per lot with a proposed or existing single-family dwelling if all of the following apply:
        a. The ADU or JADU is within the proposed space of a single-family dwelling or existing space of a single-family dwelling or accessory structure and may include an expansion of not more than 150 square feet beyond the same physical dimensions as the existing accessory structure. An expansion beyond the physical dimensions of the existing accessory structure shall be limited to accommodating ingress and egress.
        b. The space has exterior access from the proposed or existing single-family dwelling.
        c. The side and rear setbacks are sufficient for fire and safety.
        d. The JADU complies with the requirements of California Government Code Section 66333 *et seq*.

2. Detached ADUs. One detached, new construction, ADU for a lot with a proposed or existing single-family dwelling. The ADU must comply with the following:
    a. Maximum Floor Area: 800 square feet of livable space.
    b. Maximum Height.
        (1) Sixteen feet for a detached ADU on a lot with an existing or proposed single family unit.
        (2) Eighteen feet for a detached ADU on a lot with an existing or proposed single family or multifamily dwelling unit that is within one-half of one mile walking distance of a major transit stop or a high-quality transit corridor, as those terms are defined in Section 21155 of the Public Resources Code. An additional two feet in height is allowed to accommodate a roof pitch on the ADU that is aligned with the roof pitch of the primary dwelling unit.
    c. Minimum Rear and Side Setbacks: four feet.
3. Nonlivable Multifamily Space. Multiple ADUs within the portions of existing multifamily dwelling structures that are not used as livable space, including, but not limited to, storage rooms, boiler rooms, passageways, attics, basements, or garages, subject to the following:
    a. At least one ADU is allowed within an existing multifamily dwelling up to maximum of 25 percent of the existing multifamily dwelling units; and
    b. Each ADU shall comply with building code standards for dwellings.
4. Detached ADUs on Multifamily Lots. ADUs that are located on a lot that has an existing or proposed multifamily dwelling, but are detached from that multifamily dwelling, are subject to the following:
    a. Maximum Number.
        (1) On a lot with an existing multifamily dwelling, not more than eight detached ADUs. However, the number of ADUs allowable pursuant to this clause shall not exceed the number of existing units on the lot.
        (2) On a lot with a proposed multifamily dwelling, not more than two detached ADUs.
    b. Maximum Height.
        (1) A height of 16 feet for a detached ADU on a lot with an existing or proposed multifamily dwelling unit.
        (2) A height of 18 feet on a lot within one-half of one mile walking distance of a major transit stop or a high-quality transit corridor, as those terms

are defined in Section 21155 of the Public Resources Code. An additional two feet in height shall be allowed to accommodate a roof pitch on the ADU that is aligned with the roof pitch of the primary dwelling unit.

(3) A height of 18 feet for a detached ADU on a lot with an existing or proposed multifamily, multistory dwelling.

c. Setbacks.

(1) Minimum rear and side setbacks: four feet.

(2) If the existing multifamily dwelling has a rear or side setback of less than four feet, the city shall not require any modification of the existing multifamily dwelling as a condition of approving the application to construct an ADU that satisfies the requirements of this subsection.

H. **General Standards.** An ADU shall comply with the following general standards:

1. Rental and Sale.

a. An ADU may be rented but shall not be sold or otherwise conveyed separately from the primary dwelling unless the provisions in California Government Code Section 66341.26(a) are met.

b. The rented unit shall not be leased for any period less than 30 days.

2. Primary and Accessory Designations. An existing primary dwelling unit may be designated as an ADU if:

a. The existing primary dwelling unit complies with the standards in this section; and

b. The new primary dwelling unit is built in compliance with applicable standards and requirements of this title that apply to primary dwellings.

3. Nonconforming Conditions. The city shall not require, as a condition for approval of a permit application for an ADU or JADU, the correction of nonconforming zoning conditions or unpermitted structures that do not present a threat to public health and safety, as determined by the building official, and are not affected by the construction of the ADU or JADU.

I. **Development Standards.** Except as provided in subsection (G), Units subject to limited standards, of this section, an ADU shall comply with the following development standards:

1. Floor Area. The floor area of an ADU shall not exceed the maximums shown in Table 17.90-1.

Table 17.90-1: Maximum Floor Area

ADU Type	Maximum ADU Floor Area
Attached	
One bedroom or less	50 percent of the existing primary dwelling or 850 sq. ft. of interior livable space, whichever is greater
More than one bedroom	50 percent of the existing primary dwelling or 1,000 sq. ft. . of interior livable space, whichever is greater
Detached	1,200 sq. ft.
Internal	50 percent of the existing primary dwelling
Junior	500 sq. ft.

2. Bulk Standards.
    a. An ADU shall conform to the applicable floor area ratio and site landscaping standards of the district in which it is located, except when otherwise allowed by subsection (I)(3), Guaranteed Allowance, of this section.
    b. An ADU is exempt from maximum lot coverage standards.
3. Guaranteed Allowance. Maximum floor area, floor area ratio, minimum site area, minimum site area per unit, open space, and front yard standards shall not prohibit an ADU with at least an 800 square feet of interior livable space and four-foot side and rear yard setbacks, provided the ADU complies with all other applicable standards.
4. Property Line Setbacks.
    a. All ADUs. Except as otherwise provided in this section, an ADU shall be set back from property lines as required by Table 17.90-2.
    b. Detached ADUs. Except as otherwise provided in this section, a detached ADU shall not occupy a required court or front yard, nor project beyond the front building line of the principal structure on the site. In an H overlay district (Chapter 17.54), the detached ADU shall not project beyond the street-facing building wall.

Table 17.90-2: Minimum Property Line Setbacks

Property Line	ADU Type			
	Attached	Detached	Internal	Junior
Front	Same as primary dwelling [1]		None required	
Side	4 ft.	4 ft.		
Rear	4 ft.	4 ft.		

Note:
[1] For detached ADUs, see also BMC 17.70.060(I)(4)(b) (Detached ADUs). For detached accessory structures in an H overlay district, see also BMC 17.70.060(J)(6).

5. Building Separation. A minimum five-foot distance shall be maintained between a detached ADU and the primary building on the site. A detached accessory structure shall be set back from other structures on the site as required by the building code.
6. Converting and Replacing Existing Structures.
    a. An internal ADU may be constructed regardless of whether it conforms to the current zoning requirement for building separation or setbacks.
    b. If an internal ADU is proposed to be constructed within an existing accessory structure, the city shall ministerially permit an expansion of the existing accessory structure by up to 150 square feet for the purpose of accommodating ingress and egress.
    c. If an existing structure is demolished and replaced with an ADU, an ADU may be constructed in the same location and to the same dimensions as the demolished structure.
7. Height.
    a. H Overlay Districts. The height of an ADU in an H overlay district shall not exceed the maximums shown in Table 17.90-3.

Table 17.90-3: Maximum Height in H Overlay Districts

ADU Type	Maximum ADU Height [1]
Attached	Same as required for primary dwelling

ADU Type	Maximum ADU Height [1]
Detached	
Exterior building wall [2]	14 ft.
Roof peak (based on roof pitch)	
Below 4:12	16 ft. [3]
4:12 to less than 6:12	18 ft. [3]
6:12 or greater	20 ft.
Internal	Not applicable
Junior	Not applicable

Notes:
[1] For detached accessory structures in an H overlay district, see also BMC 17.70.060(J)(6).
[2] Measured to the top plate.
[3] A height of 18 feet is permitted on a lot within one-half of one mile walking distance of a major transit stop or a high-quality transit corridor, as those terms are defined in Section 21155 of the Public Resources Code, and on a lot with an existing or proposed multifamily, multistory dwelling. An additional two feet in height is permitted to accommodate a roof pitch on the ADU that is aligned with the roof pitch of the primary dwelling unit. In no case shall the height of a detached ADU in the H overlay district exceed 20 feet.

b. Outside H Overlay Districts. The roof peak of a detached ADU outside of an H overlay district shall not exceed the maximums shown in Table 17.90-4. The maximum allowed height for attached ADUs is the same as required for the primary dwelling. Height standards do not apply to internal and junior ADUs.

Table 17.90-4: Detached ADU Maximum Height Outside H Overlay Districts

Maximum Roof Peak Height Based on Roof Pitch	Exterior Building Wall Distance from Rear or Side Property Line		
	4 ft. to less than 5 ft.	5 ft. to less than 7 ft.	7 ft. or more
Below 4:12	16 ft. [1]	18 ft. [1]	20 ft.
4:12 to less than 6:12	18 ft. [1]	20 ft.	22 ft.
6:12 or greater	20 ft.	22 ft.	24 ft.

Note:
[1] A height of 18 feet is permitted on a lot within one-half of one mile walking distance of a major transit stop or a high-quality transit corridor, as those terms

are defined in Section 21155 of the Public Resources Code, and on a lot with an existing or proposed multifamily, multistory dwelling. An additional two feet in height is permitted to accommodate a roof pitch on the ADU that is aligned with the roof pitch of the primary dwelling unit.

8. Foundation. An ADU shall be constructed on a permanent foundation.

J. Objective Design Standards. Except as provided in subsection (G), Units Subject to Limited Standards, of this section, an ADU shall comply with the following design standards:

1. Second Story Decks and Balconies. Second story decks and balconies shall be set back a minimum of 10 feet from a side or rear property line adjoining a lot occupied by a single-family or two-family dwelling, except in cases where this standard would prohibit an ADU with at least 800 square feet of floor area and four-foot side and rear yard setbacks.

2. Outdoor Stairs. Outdoor stairs providing access to a second story ADU shall adjoin an exterior wall that faces the interior of the lot, rather than an exterior wall nearest a side or rear property line, except in cases where this standard would prohibit an ADU with at least 800 square feet of floor area and four-foot side and rear yard setbacks.

3. Dormers. The side wall of a dormer shall be set back a minimum of two feet from the parallel side wall below. The cumulative width of a dormer or dormers on any side of an ADU shall not occupy more than 66 percent of the building face below.

4. Gables. If a gable roof or turned gable roof is present, the gable ridge shall be oriented in a direction parallel to the side property line in order to minimize shadow effects on the adjoining lot.

5. Roof Pitch. The roof pitch for an ADU shall be 4:12 or greater. However, if the primary residence has a roof pitch shallower than 4:12, a similar pitch may be employed on the accessory dwelling.

6. H Overlay District Standards. In an H overlay district, an ADU shall conform to the following additional requirements:

   a. Except as provided in subsection (I)(6) or (H)(3) of this section, a detached ADU shall be set back from the street-facing facade and/or front property line such that the entirety of the ADU is behind the rear wall of the principal structure on the lot.

   b. The elevation of the highest point of a detached accessory dwelling shall not exceed the elevation of the highest point of the primary dwelling, except that in all cases a detached ADU at least 16 feet in height, or as permitted by Government Code Section 66321(b)(4), is allowed.

c. An attached ADU shall not result in a rooftop addition or any alteration to the existing roofline of a designated resource.

d. An ADU shall not result in any increase in building height for a designated resource, except that in all cases an attached ADU at least 16 feet in height, or as permitted by Government Code Section 66321(b)(4), is allowed.

e. An ADU shall not result in any exterior alteration to the street-facing facade nor the existing wall or facade of a designated resource where such wall or facade is parallel to a public street.

f. A building addition to a designated resource to accommodate an attached ADU shall be inset or separated by a connector that is offset at least 18 inches from the parallel side or rear building wall to distinguish it from the primary dwelling. Such building addition shall not extend beyond the side wall of the primary dwelling.

g. For an attached ADU, the exterior building and trim materials shall be wood or smooth fiber cement siding or shingles. However, if Portland cement plaster (stucco) is the predominant finish for the primary residence, then stucco may also be applied to the accessory dwelling. Synthetic stucco (e.g., EIFS or DryVit) and faux wood grains are prohibited.

h. For a detached ADU, the following exterior building materials are prohibited: pressed board, vinyl, synthetic stucco and any composite or fiber cement material with a faux wood grain.

i. The exterior walls of an ADU shall utilize the same base and trim colors as the primary residence.

j. The roof shall utilize the same material and color as the primary residence and shall match the primary residence in overall appearance.

k. Windows shall be taller than they are wide or shall match the proportions of the primary dwelling's windows. Windows in bathrooms, basements and crawl spaces, kitchens and laundry rooms may be horizontally oriented.

l. Window pane divisions shall be true or simulated divided lites (i.e., individual panes set within muntins or muntins applied to both the interior and exterior of the glass).

m. Window frames shall be painted or factory-finished. No metallic finishes such as silver or bronze anodized aluminum are permitted.

n. For designated resources, vinyl windows are not permitted on an attached ADU.

K. **Parking**.

1. No additional off-street parking stalls are required for an ADU or JADU.
2. When a garage, carport, covered parking structure, or uncovered parking space is demolished in conjunction with the construction of an ADU or converted to an ADU, replacement parking stalls are not required for the demolished parking structure.
3. If a detached garage is demolished and replaced with an ADU, the demolition permit for the detached garage shall be reviewed with the application for the ADU and issued at the same time.

17.90.030 – Affordable housing density bonus.

A. **Purpose**.

1. In accordance with California Government Code Section 65915 et seq., this section BMC 17.70.270 specifies how compliance with state density bonus law will be implemented.
2. Specifically, the purpose of this section is to provide density bonuses, incentives, concessions, and waivers of development standards for the production of housing for very low-, low-, and moderate-income households, senior households, provision of daycare facilities, student housing, and donations of land, and for other housing types as provided by state law.
3. In enacting this section, it is also the intent of the city to implement the goals, objectives, and policies of the city's general plan.

B. **Definitions**. The definitions found in "state density bonus law," Government Code Sections 65915 through 65918 or successor provisions, shall apply to the terms contained in this section. "Incentives" include "concessions" as defined in state density bonus law.

C. **Application Requirements**.

1. An applicant for a "housing development" as defined in state density bonus law shall be eligible for a density bonus and other regulatory benefits that are provided by state density bonus law when the applicant seeks and agrees to provide housing as specified in Government Code Sections 65915(b), (c), (f), (g), (h) and (v), or in Section 65195.5, or successor provisions. The density bonus calculations shall be made in accordance with state density bonus law.
2. The granting of a density bonus, incentive, or concession, pursuant to this section, shall not be interpreted, in and of itself, to require a general plan amendment, development code amendment, zone change, other discretionary approval, or the waiver of a city ordinance or provisions of a city ordinance unrelated to development standards.
3. All requests for density bonuses, incentives, parking reductions, and waivers for

a housing development shall be filed with and on a form provided by the community development director, or their designee, concurrently with the filing of the planning application for the first discretionary or ministerial permit required for the housing development, whichever permit is earliest. The applicant shall be informed whether the application is complete consistent with Government Code Section 65943.

4. The application shall include the required fee and the following minimum information:

    a. **For a Requested Density Bonus**.

        i. Summary table showing the maximum number of dwelling units permitted by the zoning and general plan excluding any density bonus units, proposed affordable units by income level, proposed bonus percentage, number of density bonus units proposed, total number of dwelling units proposed on the site, and resulting density in units per acre.

        ii. Subparagraph of Government Code Section 65915(b)(1) under which the housing development qualifies for a density bonus and reasonable documentation demonstrating that the housing development is eligible for a bonus under that subparagraph.

        iii. Where the housing development is seeking an additional bonus, the subparagraph of Government Code Section 65915(v)(1) under which the housing development qualifies for an additional density bonus and reasonable documentation demonstrating that the housing development is eligible for the additional bonus under that subparagraph.

        iv. A tentative map or preliminary site plan, drawn to scale, showing the number and location of all proposed units, designating the location of proposed affordable units and density bonus units.

        v. The zoning and general plan designations and assessor’s parcel number(s) of the housing development site.

        vi. A description of all dwelling units existing on the site in the five-year period preceding the date of submittal of the application and identification of any units rented in the five-year period; subject to any form of rent control through a public entity’s valid exercise of its police power; or subject to a recorded covenant ordinance, or law restricting rents to levels affordable to households of lower or very low income.

        vii. If dwelling units on the site are currently rented, income and household size of all residents of currently occupied units, if known. If any dwelling units on the site were rented in the five-year period but are not currently rented, the income and household size of residents occupying the

dwelling units when the site contained the maximum number of dwelling units, if known.

viii. The phasing of the construction of the affordable housing units in relation to the nonrestricted units in the housing development.

ix. A density bonus is requested for a land donation, the location of the land to be dedicated, proof of site control, and reasonable documentation that each of the requirements included in Government Code Section 65915(g) can be met.

b. **Requested Incentives**. Incentives are those defined by state density bonus law. The number of incentives that may be requested shall be based upon the number the applicant is entitled to pursuant to state density bonus law. The application shall include the following minimum information for each incentive requested, shown on a site plan (if appropriate):

i. The city's usual regulation and the requested regulatory incentive or concession.

ii. Except where mixed-use zoning is proposed as a concession or incentive, reasonable documentation to show that any requested incentive will result in identifiable and actual cost reductions to provide for affordable housing costs or rents.

iii. If approval of mixed-use zoning is proposed, reasonable documentation that nonresidential land uses will reduce the costs of the housing development, that the nonresidential land uses are compatible with the housing development and the existing or planned development in the area where the proposed housing development will be located, and that mixed-use zoning will provide for affordable housing costs and rents.

c. **Requested Waivers**. For each waiver requested, the applicant shall include, shown on a site plan, and shown for each existing or proposed parcel the city's required development standard and the requested development standard.

d. **Parking Reductions**. If a housing development is eligible for a density bonus pursuant to state density bonus law, the applicant may request an on-site vehicular parking ratio specified in Government Code Section 65915(p). An applicant may request this parking reduction in addition to the incentives and waivers permitted by subsections (C)(2) and (C)(3) of this section. The application shall include a table showing parking required by the zoning regulations, parking proposed under state density bonus law, paragraph under Government Code Section 65915(p) (or other statute) under which the project qualifies for the parking reduction, and reasonable documentation that the project is eligible for the requested parking

reduction.

e. **Density Bonus or Incentive for a Child Care Facility in a Housing Development**. The application shall include reasonable documentation that all of the requirements included in Government Code Section 65915(h) can be met.

f. **Density Bonus or Incentive for a Condominium Conversion**. The application shall include reasonable documentation that all of the requirements included in Government Code Section 65915.5 can be met.

D. **Application Review Process**.

1. All requests under state density bonus law shall be part of the planning application and shall be applied for, reviewed, and acted upon concurrently with the planning application by the approval body with authority to approve the development ("review authority"), within the timelines prescribed by Government Code Section 65950 et seq. or other statute. Appeals of the planning application in accordance with the requirements of Chapter 1.44 BMC (Appeals) shall include all requests under state density bonus law if appeals are authorized for the discretionary or ministerial permit applied for.

2. The review authority shall grant an incentive requested by the applicant unless it makes a written finding, based upon substantial evidence, of any of the following:

   a. The proposed incentive does not result in identifiable and actual cost reductions to provide for affordable housing costs, as defined in Health and Safety Code Section 50052.5; or for affordable rents, as defined in Health and Safety Code Section 50053; or

   b. The proposed incentive would be contrary to state or federal law; or

   c. The proposed incentive would have a specific, adverse impact upon the public health or safety or on any real property that is listed in the California Register of Historical Resources, and there is no feasible method to satisfactorily mitigate or avoid the specific adverse impact without rendering the housing development unaffordable to low- and moderate-income households. For the purpose of this subsection, "specific, adverse impact" means a significant, quantifiable, direct and unavoidable impact, based on objective, identified, written public health or safety standards, policies, or conditions as they existed on the date that the application for the housing development was deemed complete as defined in Government Code Section 65589.5.

3. The review authority shall grant the waiver of development standards requested by the applicant unless it makes a written finding, based upon substantial evidence, of any of the following:

a. The proposed waiver would be contrary to state or federal law; or

b. The proposed waiver would have an adverse impact on any real property listed in the California Register of Historical Resources; or

c. The proposed waiver would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific adverse impact without rendering the housing development unaffordable to low- and moderate-income households. For the purpose of this subsection, “specific, adverse impact” means a significant, quantifiable, direct and unavoidable impact, based on objective, identified, written public health or safety standards, policies, or conditions as they existed on the date that the application for the housing development was deemed complete as defined in Government Code Section 65589.5.

4. If a child care center complies with the requirements of Government Code Section 65915(h), the review authority may deny a density bonus or incentive that is based on the provision of child care facilities only if it makes a written finding, based on substantial evidence, that the city already has adequate child care facilities.

E. **Density Bonus Housing Agreement**.

1. If a density bonus, incentive, parking reduction, or waiver is approved pursuant to this section, the applicant shall enter into a binding affordable housing agreement or restrictive covenant, as described below, with the city, which sets forth the conditions and guidelines to be met in the implementation of state density bonus law and that ensures compliance with all of the provisions of this section. The agreement will also establish specific compliance standards and remedies available to the city upon failure by the applicant to comply with state density bonus law, this section, or the affordable housing agreement.

2. For rental projects, the applicant shall enter into an affordable housing agreement with the city, running with the land, in a form approved by the city attorney, to be executed by the city manager, or their designee. The agreement shall require the continued affordability of all rental units that qualified the applicant for the receipt of the density bonus, incentive, waiver, or parking reduction for a minimum of 55 years or a longer period of time if required by the construction or mortgage financing assistance program, mortgage insurance program, or rental subsidy program; shall identify the type, size and location of each affordable unit; shall specify the eligible occupants; shall specify phasing of the affordable units in relation to the market-rate units; and shall contain other relevant provisions approved by the city attorney. Rents for the lower income density bonus units shall be set at an affordable rent as defined in state density bonus law.

3. For for-sale projects, the applicant shall enter into an affordable housing

agreement with the city, running with the land, in a form approved by the city attorney, to be executed by the city manager, or their designee. The affordable housing agreement shall require that the initial purchasers of those for-sale units that qualified the applicant for the receipt of the density bonus, incentive, waiver, or parking reduction are persons and families of lower or moderate income, as applicable, or if any for-sale unit is not purchased by an income-qualified household within 180 days after the issuance of the certificate of occupancy, then the unit(s) must be sold pursuant to a contract that satisfies the requirements of Revenue and Taxation Code Section 402.1(a)(10) to a qualified nonprofit housing corporation as defined in state density bonus law and that the units are offered at an affordable housing cost, as that cost is defined in Health and Safety Code Section 50052.5; and shall contain other relevant provisions approved by the city attorney. The city shall enforce an equity sharing agreement consistent with state density bonus law unless it is in conflict with the requirements of another public funding source or law. The affordable housing agreement shall require the continued affordability of the for-sale units for a minimum of 55 years from the recordation of each affordable housing agreement, as the case may be.

4. Where a density bonus, waiver or parking reduction is provided for a market-rate senior housing development, the applicant shall enter into a restrictive covenant with the city, running with the land, in a form approved by the city attorney, to be executed by the city manager, or their designee, to require the housing development to be operated as “housing for older persons” consistent with state and federal fair housing laws.

5. The executed affordable housing agreement shall be recorded against the housing development prior to final or parcel map approval, or, where a map is not being processed, prior to issuance of building permits for the housing development, whichever is earliest. The affordable housing agreement shall be binding on all future owners and successors in interest.

F. **Density Bonus Calculations**.

1. In determining the total number of units to be granted, each component of any density calculation, including base density and bonus density, resulting in fractional units shall be separately rounded up to the next whole number.

2. When calculating the number of affordable units needed to qualify for a given density bonus, any fractions of affordable dwelling units shall be rounded up to the next whole number.

3. Except where a housing development is eligible for an additional bonus pursuant to Government Code Section 65915(v), each housing development is entitled to only one density bonus. If a housing development qualifies for a density bonus under more than one category, the applicant shall identify the

category under which the density bonus is requested to be granted.

4. In determining the number of affordable units required to qualify a housing development for a density bonus pursuant to state density bonus law, units added by a density bonus are not included in the calculations. Any on-site units that satisfy the city's inclusionary housing requirements in BMC 17.70.320 (Inclusionary housing) and are required to be constructed concurrently with the housing development may qualify the housing development for a density bonus if those units meet the requirements of state density bonus law.
5. The applicant may elect to accept a lesser percentage of density bonus than the housing development is entitled to, or no density bonus, but no reduction will be permitted in the percentages of affordable units required by state density bonus law. Regardless of the number of affordable units, no housing development shall be entitled to a density bonus greater than what is authorized under state density bonus law.
6. Nothing in this section requires the provision of direct financial incentives from the city for the housing development, including, but not limited to, the provision of financial subsidies, publicly owned land, fee waivers, or waiver of dedication requirements. The city, at its sole discretion, may choose to provide such direct financial incentives.

G. **Development Standards**.

1. Building permits and final inspections or certificates of occupancy shall be issued concurrently for the market rate units and for any affordable units that qualified the project for a density bonus, incentive, waiver, or parking reduction, so that the affordable units comprise the required percentage of total units.
2. Affordable units shall be comparable in exterior appearance and overall quality of construction to market rate units in the same housing development and shall meet the design and amenity standards set forth in BMC 17.70.320(C)(5) (Design and Amenity Standards).
3. To comply with fair housing laws, the affordable units shall contain the same proportional mix of bedroom sizes as the market-rate units. In mixed-income buildings, the occupants of the affordable units shall have the same access to the common entrances and to the common areas, parking, and amenities of the project as the occupants of the market-rate housing units, and the affordable units shall be located throughout the building and not isolated on one floor or to an area on a specific floor.

H. **Density Bonus for Commercial Development**. A commercial development may request and receive a development bonus pursuant to the provisions of Government Code Section 65915.7.

I. **Interpretation**. If any portion of this section conflicts with state density bonus law or

other applicable state law, state law shall supersede this section. Any ambiguities in this section shall be interpreted to be consistent with state density bonus law. Statutory references in this section include successor provisions.

17.90.040 – Manufactured homes.

A. **Purpose**. Manufactured homes are part of the housing stock of the city of Benicia. It is the intent of the city to provide opportunities for the placement of manufactured homes as residential uses and in manufactured home parks, and to ensure that such manufactured homes are designed and located so as to be harmonious within the context of the surrounding houses and neighborhood. No provision contained herein shall be applied in contradiction to state law.

B. **General Requirements**. Manufactured homes may be used for residential purposes as follows:

1. If such manufactured homes are located in an approved manufactured home park in conformity with the conditions imposed upon development and use of the manufactured home park; or
2. If such manufactured homes are located in a district that permits single-family dwellings; or
3. If such manufactured homes have been approved by the community development director for a location in an OS district or an I district as caretaker housing.
4. All manufactured home parks shall have a minimum lot area of four acres and may be allowed only through approval of a PD district under the provisions of Chapter 17.44 BMC. Manufactured homes also may be used for temporary uses, subject to the requirements of a temporary use permit issued under Chapter 17.104 BMC.

C. **Design Criteria**. A manufactured home shall be compatible in design and appearance with structures in the vicinity and shall meet the following standards:

1. It must be built on a permanent foundation approved by the building official;
2. It must have been constructed in compliance with all city of Benicia permit requirements, subject to permitting by the California Department of Housing and Community Development;
3. The unit’s skirting must extend to the finished grade;
4. The exterior materials of a manufactured home shall be compatible with existing development in the immediate neighborhood by using building materials, window styles, roof slopes, colors, and exterior finishes that are the same or visually similar to those on the primary dwelling unit. Reflective metal finishes are prohibited;

5. The roof must be of concrete or asphalt tile, shakes or shingles, or nonreflective standing seam metal complying with the most recent editions of the California Building Code fire rating approved in the city of Benicia;
6. The roof must have a minimum 2:12 pitch and eaves or overhangs of not less than one foot;
7. Required covered parking shall be compatible with the manufactured home design and with other buildings in the area.

D. **Cancellation of State Registration**. Whenever a manufactured home is installed on a permanent foundation, any registration of said manufactured home with the state of California shall be canceled, pursuant to state laws and regulations. Before any occupancy certificate may be issued for use of such a manufactured home, the owner shall provide to the building official satisfactory evidence showing that the state registration of the manufactured home has been or will, with certainty, be canceled. If the home is new and has never been registered with the state, the owner shall provide the building official with a statement to that effect from the dealer selling the home.

17.90.050 – Inclusionary housing.

A. **Purpose**.

1. The purpose of this section is to enhance the public welfare and assure that new housing development contributes to the attainment of the city's housing goals by promoting and increasing, through actual construction and/or alternative equivalent actions as provided for in this section, the production of rental and ownership units available and affordable to qualified households.
2. It is city's intent that the requirements for inclusionary units affordable to qualified households shall not be contingent on the availability of government programs, subsidies, or regulatory assistance. This is not to preclude the use of such programs, subsidies, or regulatory assistance. To the extent a government subsidy, affordable housing program, or regulatory assistance has requirements that conflict with this section, the community development director may modify or waive such conflicting requirement(s) of this section in order to facilitate the development of inclusionary units. This section is also not intended to be an undue burden on the developers of residential projects.

B. **Applicability**.

1. Any residential development of 10 or more units shall comply with the requirements of this section to provide inclusionary units within the development as units affordable to, and occupied by, qualified households, for a minimum of 55 years from the recordation of each resale control agreement or affordable restriction agreement, as the case may be, for the units.

2. For rental development, 10 percent of the total number of market-rate units in the development shall be provided as inclusionary units.
3. For for-sale development of less than 100 units, 10 percent of the total number of market-rate units in the development shall be provided as inclusionary units.
4. For for-sale development of 100 or more units, 15 percent of the total number of market-rate units in the development shall be provided as inclusionary units.
5. In applying the percent or percentages referred to in this section, any decimal fraction less than 0.50 may be disregarded and any decimal fraction greater than or equal to 0.50 shall be rounded up to the next whole number.
6. Inclusionary units shall be constructed on site unless otherwise approved pursuant to subsection (F) of this section, Alternative Means of Compliance.

C. **General Requirements**.

1. Affordability. One-half of the total number of inclusionary units within the residential development shall be designated as units affordable to, and occupied by, low-income households. One-half of the total number of inclusionary units within the development shall be designated as units affordable to, and occupied by, moderate-income households.
    a. Any inclusionary unit may be offered at a level affordable to, and occupied by, acutely low-income, extremely low-income, very low-income or low-income households subject to compliance with all other requirements of this section. The provision of such units at alternate affordability levels shall not modify the total number of required inclusionary units.
    b. When the number of required inclusionary units is an odd number (e.g., 10 percent of 10 units is one), the odd-numbered unit shall be provided at a level affordable to a low-income household.
2. Affordable Restriction Agreement. An affordable restriction agreement shall be required for any residential development subject to this section. The affordable restriction agreement shall be fully executed by the city and developer prior to issuance of any building permit for the residential development. The affordable restriction agreement, inclusive of resale control agreement(s) or affordable rental agreement(s) as applicable, shall be recorded as a deed restriction upon the property prior to issuance of a certificate of temporary or permanent occupancy for any market-rate unit within the residential development. The agreement shall ensure compliance with the requirements of this section, including all of the following:
    a. The timing of the construction of the inclusionary units and/or the provision of an alternative means of compliance as set forth in subsection (F) of this section, Alternative Means of Compliance;

b. The number of inclusionary units at appropriate sales price or rent levels equivalent to or more affordable than 50 percent low-income units and 50 percent moderate-income units;

c. The term of affordable restriction agreement;

d. The location of inclusionary units, identified by assessor's parcel number and address or unit number, and depicted on the approved site plan;

e. Provision(s) regarding income certification and screening of prospective buyers and/or renters of inclusionary units;

f. A standard resale control agreement for all for-sale units and/or affordable rental restriction agreement for all rental units, as applicable; and

g. The method of cost recovery for initial and ongoing income certification for inclusionary units.

3. Rents and Sales Prices. Affordable rent and sales prices shall be determined at a rent or price that is affordable for a qualified household according to the Official State Income Limits Table.

4. Concurrent Construction.

   a. All inclusionary units in a residential development and/or phases of a development shall be constructed concurrently with or prior to the construction of market-rate units.

   b. Except as provided in subsection (C)(4)(c) of this section, each phase of a residential development shall include the same or greater proportion of inclusionary units as are required for the total development, which shall be verified and approved in the construction phasing plan at the time of building permit application.

   c. For discretionary permits, the review authority may authorize an alternative phasing schedule to facilitate affordable housing development and if the affordable restriction agreement sets forth terms for timely satisfaction of the inclusionary housing requirements.

5. Design and Amenity Standards. Inclusionary units shall meet the following standards. Documentation of compliance with the design and amenity standards shall be submitted at the time of the development application (e.g., parcel map, tentative map or design review).

   a. Distribution. Inclusionary units shall be interspersed among market-rate units within the same residential development as demonstrated on a site plan and/or floor plan that clearly indicates the location of such units.

      i. No more than 50 percent of the proposed affordable housing units are consolidated into one structure in developments with more than one

multi-unit structure;

ii. No more than 20 percent of affordable housing units in a single multi-unit structure may be located adjacent to each other or stacked on consecutive floors unless it is unavoidable due to the required unit mix and distribution;

iii. No more than 20 percent of the affordable housing units may be located adjacent to each other within single-family residential subdivisions;

iv. The distribution requirements of this subsection shall not be applicable if the affordable units are financed with low-income tax credits or consist of affordable senior housing.

b. Comparable Units. Inclusionary units must be comparable to market-rate units. “Comparable” means that the inclusionary units shall be offered in a bedroom and bathroom mix that is proportionate to that of market-rate units; that units shall measure no less than 90 percent of the average square footage of market-rate units with the same number of bedrooms; and that the units are offered with the same standard mechanical systems as market-rate units.

c. Comparable Design. Inclusionary units shall be designed in a manner that is consistent with the exterior design of market-rate units in the same development. “Consistent” means that inclusionary units are offered the same standard building elevations, standard exterior materials (i.e., walls, roofing, windows, and trim), and standard landscaping as market-rate units. “Standard” refers to components of the dwelling unit that are offered in the base purchase price or rent.

d. Comparable Amenities. Residents of inclusionary units shall have access to and enjoyment of all on-site amenities that are available to market-rate units. Owners or occupants of inclusionary units shall not be charged any fee or rent for access to amenities such as recreational facilities, parking, cable TV, vehicle charging and interior appliances such as dishwashers and microwave ovens, unless such fee or rent is charged to market-rate tenants. Optional services for all residents must be the same. Tenants of inclusionary units cannot be required to purchase additional services.

e. Common Access. Residential buildings that have a common, shared entrance or entrances shall not have separate entrances for market-rate and inclusionary units.

f. For discretionary permits, the review authority shall have the authority to approve one or more deviations from these standards when the review authority determines that such deviation is necessary due to factors such as site or design constraints, public funding source restrictions pertinent to

lower-income units, or to comply with all applicable city ordinances. In making its decision, the review authority shall find that the project will fulfill the purposes of this section and the affordable housing needs and policies of the city as reflected in the housing element.

D. **Requirements for Rental Units**.

1. Tenant Screening.

   a. All prospective tenants for inclusionary rental units shall be screened and certified for their income eligibility prior to execution of a lease agreement, according to the procedure and terms of the affordable restriction agreement and affordable rental agreement, as applicable.

   b. The same rental terms and conditions shall be applied to tenants of inclusionary units as are applied to market-rate units, except as to rent levels, income requirements, or other requirements of state or federal subsidy programs.

   c. Notwithstanding any other provision of this subsection, in the screening and selection process for the inclusionary rental units, the city, developer, and/or their designee(s) shall comply with all applicable state and federal fair housing laws. Discrimination based on any subsidies (e.g., housing choice vouchers) received by the prospective tenant is expressly prohibited.

2. Annual Compliance Reporting.

   a. Commencing with issuance of each certificate of occupancy and continuing until expiration of the affordable restriction agreement, the developer or its designee(s) shall provide an annual report to the city by January 31st of each year that includes all of the following information:

      i. The address, including apartment or unit number, each inclusionary unit;

      ii. The number of bedrooms in the inclusionary unit;

      iii. The initial and current rent level of the household;

      iv. The current income level of the household and the number of persons in the household;

      v. The term of the affordability restrictions pursuant to this section or the requirements of any funding source, whichever is more restrictive;

      vi. The name and address of the owner and manager (if applicable).

   b. The city or its designee(s) shall monitor compliance with the rent level requirements of this section.

3. Substitution of Unit. A market-rate unit may be substituted for an inclusionary

unit according to the procedures and requirements of this section.

a. If the tenant of an inclusionary unit experiences an increase in household income that exceeds the income limits for a qualified household according to the Official State Income Limits Table and the affordable restriction agreement, the owner or their designee may adjust the rent of such unit to market-rate and allow continued occupancy of the unit; provided, that the next available equivalent market-rate unit shall be leased to a qualified household that meets the income limits set forth in the affordable restriction agreement ("substitution of unit").

b. The substitution of the units shall be documented in the annual compliance report to demonstrate that the appropriate number and affordability levels of inclusionary units are being maintained pursuant to the affordable restriction agreement.

4. Transfers and Sales of Inclusionary Units. The owner of any inclusionary rental unit shall attach and legally reference in the grant deed conveying title of any such inclusionary unit a declaration of restrictions stating the restrictions imposed pursuant to subsection (C)(2) of this section (Affordable Restriction Agreement). The city may provide a form declaration of restrictions, but failure to provide the form does not abrogate the owner's obligation to record the declaration. The declaration of restrictions shall include all applicable occupancy restrictions, prohibitions, and terms of the affordable rental restriction agreement as required by this section.

E. **Requirements for For-Sale Units**.

1. Marketing and Buyer Selection Plan. As part of the application for for-sale unit development, the developer shall submit a marketing and buyer selection plan for city. Approval of the plan shall be required prior to execution of the affordable restriction agreement.

a. The marketing section will set forth available financing and/or lending resources for lower-income households and the methods of identifying and conducting outreach to potential buyers.

b. The buyer selection portion of the plan will specify the income eligibility standards and necessary documentation to comply with the process and requirements of this subsection.

c. The plan shall state that no inclusionary unit may be sold to an immediate family member nor employee of the developer(s) or owner(s).

2. Notice of Availability. The developer or their designee(s) shall notify the city of the availability of for-sale inclusionary units when the units are initially offered for sale.

a. Notice of availability shall be made in writing and provided in accordance with the terms of the affordable restriction agreement. Notice may precede the listing of units by up to 30 days but shall be received no later than one day after the units are listed or advertised for sale.

b. The developer or their designee(s) shall be responsible for the marketing of inclusionary units. The city or its designee(s) may, in their discretion, also advertise the availability of the inclusionary units to the general public and eligible parties known to the city of Benicia and county of Solano.

c. Discrimination based on any protected characteristic, including discrimination based on any subsidies received by a qualified household, is expressly prohibited.

3. Buyer Screening.

   a. For-sale inclusionary units shall only be offered to, sold to, and sold at prices affordable to qualified households who meet the income limits at the time of sale.

   b. Maximum sales price for inclusionary units shall be determined at price that is affordable for a qualified household according to the income limits of the Official State Income Limits Table and set forth in the affordable restriction agreement for the development.

   c. Every purchaser of an inclusionary unit shall certify that the unit is being purchased for the purchaser's primary place of residence.

4. Escrow Reporting.

   a. At least 10 working days prior to close of escrow for each inclusionary unit, the developer or their designee(s) shall submit a pre-closing report to the city which includes all of the following information:

      i. The address of the unit and lot number (as applicable);

      ii. The affordability designation of the unit pursuant to the affordable restriction agreement;

      iii. The sales price;

      iv. The household income of the prospective purchaser, including associated documentation as detailed in the affordable restriction agreement;

      v. The number of persons in the prospective purchaser's household; and

      vi. The term of the affordability restrictions pursuant to this section or the requirements of any intended funding source, whichever is more restrictive.

b. The city shall review the preclosing report and either (i) notify the developer or their designee(s) of any deficiencies in the completeness of the report; or (ii) issue a certification that the prospective purchaser's household income complies with the income limit for the designated inclusionary unit pursuant to the requirements of this section; or (iii) decline to certify that the prospective purchaser meets the income requirements pursuant to the affordable restriction agreement and this section.

c. No inclusionary unit may close escrow unless the income certification has been issued to the developer or their designee(s).

d. Within 10 working days after close of escrow for each inclusionary unit, the developer or their designee(s) shall provide a post-closing report to the city or its designee which includes all of the following information:

   i. A copy of the recorded affordable restriction agreement and resale control agreement for the unit;

   ii. The name of the owner(s) of the inclusionary unit;

   iii. The date of actual or expected occupancy.

e. Escrow reporting shall be provided for each inclusionary unit until all units have been sold.

f. The city or its designee(s) shall at least annually monitor purchase prices, number of units at the required affordability levels, owner-occupancy, and the expiration of the terms of affordability.

5. Homeowners' Dues and Assessments. Owners of for-sale inclusionary units may be obligated to pay homeowners' dues and/or assessments; provided, that the assessment charged to any low-income inclusionary unit shall not exceed 75 percent of the dues and/or assessments owed by market-rate unit owners.

6. Control of Resale. In order to maintain the availability of the for-sale inclusionary units pursuant to the requirements of this section, the city shall impose resale conditions for a period of 55 years from recordation of each resale control agreement, which 55-year period shall start over with each resale.

   a. Resale Control Agreement. As set forth in subsection (C)(2) of this section (Affordable Restriction Agreement) and further described herein, a resale control agreement setting forth the applicable terms of this section shall be recorded with the Solano County recorder's office for each for-sale inclusionary unit.

   b. Resale Price. The price received by the seller of an inclusionary unit shall not exceed the affordable cost, as determined by the income limits set forth in the Official State Income Limits Table for the affordability category

assigned to the unit at time of development approval.

c. Fees. The seller shall not levy or charge any additional fees nor shall any “finder’s fee” or other monetary consideration be allowed other than customary real estate commissions and closing costs.

d. Notice of Availability. When an inclusionary unit is listed for resale, notice of availability shall be made in writing and provided to the city in accordance with the terms of the resale control agreement. Notice may precede the listing of the unit by up to 30 days but shall be received no later than one day after the unit is listed for sale.

    i. Within 10 days of receiving notice of availability, the city may provide the owner or their designee a list of any qualified and eligible potential purchasers known to the city.

    ii. The owner or their agent must make a good faith effort to notify each listed person or their designee of unit availability within seven days of receipt of the list.

e. Qualified Buyer. The owner or their designee will be responsible for the marketing of the unit to qualified buyers and certification of the buyer’s income. Buyer screening shall be conducted in accordance with the requirements of subsection (E)(3) of this section (Buyer Screening). An inclusionary unit may be resold only to a qualified household.

f. Escrow Reporting. Prior to closing escrow, the owner or their designee shall comply with the reporting requirements of subsection (E)(4) of this section (Escrow Reporting).

g. City Option to Purchase. If the owner or their designee is unable to find a qualified buyer after 120 days of marketing the unit, the city may exercise its option to purchase the property at a price that is affordable to qualified households on the basis of the Official State Income Limits Table or appraised fair market value, whichever is less.

    i. The city shall initiate its option to purchase the inclusionary unit by notifying the owner or their designee in writing that the option is under consideration. The city may not issue this notification until the unit has been marketed for at least 120 days.

    ii. Unless extended through a written agreement by the city and the owner, the city shall issue a decision on its option to purchase within 90 days.

    iii. Nothing in this subsection shall preclude the owner from selling the property to a qualified household during the period in which the city is considering its option to purchase.

h. Rental of For-Sale Inclusionary Unit. If a for-sale inclusionary unit is no longer owner-occupied, the unit shall be occupied by and provided at a rent that is affordable to a qualified household in the income category for which the unit was designated in accordance with subsection (D) of this section (Requirements for Rental Units), inclusive of an annual compliance report.

i. Resale in Violation of Income Limits. Resale of an inclusionary unit to a household that is not qualified under the provisions of this section shall result in enforcement actions as provided in subsection (H) of this section (Enforcement). In addition, the city may opt to pursue necessary legal action demanding performance under the terms of this section and the affordable restriction agreement.

j. Transfers of Title.

i. The following transfers of title are exempt from the provisions concerning control of resale and do not reset the 55-year term of affordability:

(A) Transfer by devise or inheritance to the owner's spouse, child or other family member;

(B) Transfer of title by an owner's death to a surviving joint tenant, tenant in common, or a surviving spouse of community property (that is, another owner already on title);

(C) Transfer of title to a spouse as part of divorce or dissolution proceedings; or

(D) Transfer of title or an interest in the property to the spouse in conjunction with marriage.

ii. Upon transfer, the owner may occupy the inclusionary unit if they comply with the income limits and buyer screening provisions of this section and the applicable affordable restriction agreement. If the owner does not qualify, the inclusionary unit may be sold or rented to a qualified household in accordance with the provisions of this subsection.

F. **Alternative Means of Compliance**.

1. The preferred and most efficient method of compliance with this section is the creation of inclusionary units within the same market-rate development ("on-site"). Alternative methods of compliance will be approved if the developer submits an analysis, prepared by a qualified professional land economist, demonstrating that the development of on-site inclusionary units is not feasible and further ensuring that the alternative means of compliance will satisfy the inclusionary requirements of this section in an economically feasible manner

consistent with the purposes of this section and the policies of the housing element. For the purposes of this analysis, feasibility for rental development is defined as five percent yield-on-cost and feasibility for for-sale units is defined as 15 percent margin on costs.

2. The developer shall satisfy all alternative means of compliance concurrent with or prior to occupancy of the market-rate development.
3. Except where specifically provided herein, alternative means of compliance shall require approval by the review authority and shall be provided in accordance with all applicable requirements of this section.
4. The alternative means of compliance include and are limited to those listed in this subsection.
5. Off-Site Construction. The developer may propose to fulfill the requirements of this section by the construction off-site inclusionary units, i.e. the construction of inclusionary units that would be required as part of the residential development at another location in the city at an equivalent number, affordability level, and with comparable unit and design as required per subsections (C)(5)(b) (Comparable Units) and (C)(5)(c) of this section (Comparable Design). Such units shall be provided within the same census tract as the market-rate units. Where market-rate units are located in two or more census tracts, off-site units shall be provided in the census tract containing the greatest number of market-rate units. Off-site inclusionary units must be constructed and approved through final inspection prior to issuance of a certificate of occupancy for any units in the market-rate development project.
6. Rental Units Within For-Sale Unit Developments. The developer may propose to offer inclusionary units as rental units within a for-sale development. Such inclusionary rental units shall be subject to subsection (D) of this section (Requirements for Rental Units).
7. Extension of Existing Affordable Rent Restrictions in Off-Site Properties.
    a. The developer may propose to partner with an existing affordable housing provider that manages residential housing within the city limits of the city of Benicia to rehabilitate and extend the affordability of existing off-site housing units at an economic value equal to or greater than the subsidy cost for the required on-site inclusionary housing units, as demonstrated by the analysis of a qualified land economist and providing the following:
        i. Rehabilitation of existing affordable housing units and/or facilities in a manner that will extend the life of such structure(s) and grounds; and
        ii. Secure at least 55 years additional of restricted affordability for housing unit(s). The inclusionary units to be extended must be affordable to low- and moderate-income residents (or lower levels of affordability) as set

forth in the affordable restriction agreement, and the terms of affordability must meet the general requirements section regarding term, levels of affordability and reporting requirements.

b. A proposal for rehabilitation and extension of existing affordable rent restrictions in off-site properties shall be presented at the time of development application submittal and shall be accompanied by a memorandum of understanding or partnership agreement with the affordable housing provider; a schedule of units and/or facilities to be rehabilitated with construction cost estimates; a draft instrument extending the duration of affordability; and financing documentation as necessary to demonstrate feasibility.

8. Rehabilitation of Existing Units. The developer may propose to satisfy the inclusionary housing requirement by purchasing and rehabilitating off-site units in an equivalent quantity and affordability to what would be required for on-site inclusionary units, and to a level that complies with the comparable unit and design standards of subsections (C)(5)(b) (Comparable Units) and (C)(5)(c) of this section (Comparable Design). A proposal for acquisition of existing units, inclusive of unit location, size and type, shall be provided at the same time as the development application and shall be accompanied by evidence of ownership or contingent ownership for each unit proposed as an alternative means of compliance. Existing units that are rehabilitated as an alternative means of satisfying the inclusionary requirements shall require execution of an affordable restriction agreement and shall be acquired, deed restricted, rehabilitated and approved through final inspection prior to issuance of an occupancy permit for the market-rate development. The units purchased must be within the city limits of the city of Benicia.

G. **Use of Development Incentives – Density Bonus**.

1. To avoid an undue economic burden or cost to the developer providing inclusionary units or alternatives required by the provisions of this section, the city shall favorably consider the applicability of a density bonus for a proposed residential project or land subdivision, as provided by state and local law; provided, that a density bonus does not conflict with the goals of the city's general plan or result in significant environmental impacts.

2. Granting of a density bonus shall be considered on a project-by-project basis. Developments seeking a density bonus must comply with BMC 17.70.270 (density bonus), and the state density bonus law. The affordable housing density bonus agreement (AHDBA) required by BMC 17.70.270(B)(3) shall serve as the affordable restriction agreement required for inclusionary units.

3. Concerning for-sale units, the AHDBA will set forth the restricted resale price that is affordable for a qualified household pursuant to income limits of the

Official State Income Limits Table, and the equity sharing provisions of Government Code Section 65915, as a disclosure in the marketing of the affordable for-sale units to initial buyers and subsequent buyers on resale.

H. **Enforcement**.

1. The provisions of this section shall apply to all agents, successors and assignees of a developer for development of the site. No discretionary permit or building permit shall be issued after the effective date of the ordinance codified in this section for any project which does not meet the requirements of this section.

2. In addition to, or in lieu of, the provisions of subsection (H)(1) of this section, the city council may institute appropriate legal actions or proceedings including, but not limited to, equitable relief for the enforcement of this section. Nothing in this section shall be construed to restrict the rights of the third-party beneficiaries of this section to enforce its provisions.

3. Any person, firm or corporation, whether as principal, agent, employee or otherwise, violating or causing the violation of any of the provisions of this section, shall be guilty of a misdemeanor, and upon conviction thereof shall be punishable for each offense by a fine of not more than $5,000, or by imprisonment in the county jail for a term not exceeding six months, or by both fine and imprisonment. Such person, firm, or corporation shall be deemed to be guilty of a separate offense for each and every day during any portion of which any violation of this section is commenced, continued, or permitted by such person, firm, or corporation, and shall be punishable as provided herein.

I. **Performance**. Failure of any city official or agency to fulfill the requirements of this section shall not excuse any developer from the requirements and obligations of this section and any associated affordable restriction agreement.

17.90.060 – Emergency shelters.

A. **Purpose**. This section is intended to implement California Government Code Section 65583 by establishing standards to permit emergency shelter facilities for homeless persons or families.

B. **Zoning**. An emergency shelter is a permitted use in the following areas and districts, except as provided in subsection (C) of this section:

1. Within one-quarter mile of East Military Street and West Military Street, between West K Street and East 7th Street, excluding the RS single-family residential district, the OS open space district, and lands within the Downtown Mixed Use Master Plan zoning districts; and

2. Within one-quarter mile of Adams Street, excluding all districts except CO office commercial and CG general commercial districts.

C. **Use Permit**. Once the city's local need for emergency shelter is provided through capacity in existing local facilities and/or multi-jurisdictional agreements in accordance with Government Code Section 65583, any additional beds or emergency shelters will be permitted only on approval of a use permit. The local need for emergency shelters shall be determined based upon the most recently adopted Housing Element or in accordance with Government Code Section 65583.

D. **Design Review**. Emergency shelters permitted in accordance with subsection (B) of this section are exempt from the design review requirements as provided in Chapter 17.108 BMC, if such facilities are not located or proposed within an historic overlay district. However, once the city's local need for emergency shelter is provided through capacity in existing local facilities and/or multi-jurisdictional agreements in accordance with Government Code Section 65583, the design review exemption provided in BMC 17.108.020(B) is no longer applicable.

E. **Administrative Review**. Except as provided in subsections (C) and (D) of this section, emergency shelters shall be reviewed by the community development director or designee as follows:

1. An emergency shelter shall be approved upon finding that the proposed project conforms to the requirements of this title, including design review as required by Chapter 17.108 BMC, as well as the standards of subsection (F) of this section.
2. Approval or denial of an emergency shelter shall be noticed to the applicant in a "letter of action." If the application is denied, the letter shall state wherein the project did not meet the standards of this section.
3. Approval of an emergency shelter shall expire two years from the date of approval unless made valid by construction or occupancy of the facility. The director may grant a maximum one-year extension of the two-year approval period.

F. **Standards**.

1. Proximity to Other Emergency Shelters. Emergency shelters shall be located at least 300 feet apart as measured from closest property lines.
2. Site Improvements. Site landscaping, exterior lighting and parking facilities shall comply with the provisions of Chapters 17.70 and 17.74 BMC.
3. Outdoor Facilities. Outdoor recreational facilities shall be enclosed by a fence or a natural barrier (e.g., hedge). If smoking is allowed on site, there shall be a designated outside smoking area and the facility shall conform to the provisions of Chapter 9.06 BMC. Outdoor telephone facilities are not permitted.
4. Length of Stay. The length of stay per individual shall not exceed six months.
5. Shelter Capacity. The maximum permitted capacity of an emergency shelter shall be equivalent to the homeless census identified in the most recent

adopted housing element, less any emergency shelter capacity currently provided within the city. However, the community development director may increase the permitted capacity to serve homeless individuals based upon updated data that is compiled or verified by a qualified individual or community organization, if the data demonstrates an increase in the city's homeless population. Any proposed shelter that exceeds the permitted capacity shall require a use permit in accordance with subsection (C) of this section.

6. On-Site Waiting and Intake Areas. Client waiting and intake areas shall be screened or enclosed, and clients shall not be allowed to form a queue outside the facility. Hours of client intake shall be posted.
7. Support Facilities. The following facilities shall be provided for the exclusive use of residents and staff:
    a. Shower and restroom facilities.
    b. Food preparation and/or dining.
    c. Laundry.
    d. Secure storage for personal belongings.
    e. The facility may also provide recreation, computer, counseling, child day care or other support facilities as appropriate based upon the demonstrated need of the client population.

17.90.070 – Objective design standards.

A. All new housing development projects that meet any of the below criteria shall comply with the objective planning and design standards for mixed use residential and multifamily development, which are adopted by city council resolution and may be amended from time to time:
    1. Buildings that contain two or more dwelling units.
    2. Groups of two or more attached townhomes (row houses), regardless of whether multiple townhomes occupy the same lot or each townhome occupies a separate lot.
    3. Mixed use buildings that include at least two-thirds of the square footage designated for residential use.
    4. Transitional housing or supportive housing.
B. Where there is a conflict between standards of the zoning ordinance and the objective planning and design standards, the objective planning and design standards shall prevail.

17.90.080 – Community benefits program.

A. **Purpose**. The community benefits program allows applicants to incorporate community benefits into proposed development projects in exchange for increased development potential. This program is intended to facilitate the production of new multifamily and mixed use residential development with amenities that benefit the general public.

B. **Relationship to State Density Bonus Law**. If an applicant requests a density bonus pursuant to Section 65915 of the California Government Code, the proposed project may not also utilize incentives provided in this section.

C. **Eligibility**.

1. MU-I District. Multifamily and mixed use residential projects in the MU-I district are eligible for participation in the community benefits program.

2. Residential Floor Area in Mixed Use Residential Projects. To be eligible for incentives, at least two-thirds of the total floor area of a mixed use residential project must be occupied by a residential use.

3. Incentive Tiers. The community benefits program allows developers to propose a development project which is entitled to “incentives” in exchange for the provision of certain community benefits.

    a. Tier 1 and Tier 2 incentives are available to all properties in the MU-I district.

    b. Tier 3 incentives are available only to parcels in the MU-I district abutting the I-780 right-of-way. If a parcel abutting the I-780 right-of-way is enlarged with a parcel merger or lot line adjustment, the entire resulting parcel area is eligible for Tier 3 incentives.

D. **Incentives**.

1. Table 17.90-5 identifies the available incentives for each tier, the required community benefit, and the required approvals.

2. The city may grant incentives only when the community benefits or amenities offered are not otherwise required by the zoning ordinance or any other provision of local, state, or federal law.

Table 17.90-5: Community Benefits Program

	Tier 1	**Tier 2**	**Tier 3**
Required Benefit	2 community benefits	3 community benefits	4 community benefits
Incentives			

	Tier 1	Tier 2	Tier 3
Site Area per Unit, Min.	No min.	No min.	No min.
Lot Coverage, Max.	75%	80%	85%
Building Height, Max.	40 ft. and 3 stories	45 ft. and 4 stories	60 ft. and 5 stories
Required Approvals			
Approval Type	Design Review	Use Permit [1]	Development Agreement [1]
Review Authority	Community Development Director	Planning Commission	City Council

Notes:
[1] For Tier 2 projects, the planning commission conducts design review as part of the use permit process. For Tier 3 projects, the planning commission and city council conduct design review as part of the development agreement review process. See Chapter 17.108 BMC (Design Review).

E. **Benefits**.

1. All Projects. Development may choose from community benefits in Table 17.90-6 to satisfy the required benefit contribution set forth in Table 17.90-6. A project may use each benefit only once to satisfy the contribution requirement.
2. Tier 3 Projects.
    a. As one of the required benefits, a Tier 3 project must exceed the inclusionary housing requirement in BMC 17.90.050 (Inclusionary housing) by 10 percent. Additional affordable units shall comply with all requirements of BMC 17.70.320.
    b. All other required community benefits for a Tier 3 project may be selected from Table 17.90-6.
3. Affordable Projects. A project that is 100 percent affordable, as defined in BMC 17.70.320, is entitled to Tier 1, 2, and 3 incentives, subject to the specified approval, without providing additional community benefits.
4. Timing. Unless an alternative timing is provided for in a development agreement, community benefits must be provided:
    a. Prior to issuance of building permit for the payment of fees; and
    b. Prior to final inspection for the construction of improvements.

Table 17.90-6: Community Benefits

Community Benefit	Description
On-Site Affordable Units	The project provides on-site affordable units in compliance with BMC 17.70.320 (Inclusionary housing). Units must remain affordable for the minimum duration required by BMC 17.70.320.
Additional On-Site Affordable Units	The project exceeds inclusionary housing requirement in BMC 17.70.320 (Inclusionary housing) by 10 percent. [1]
Older-Adult Housing	All units are age-restricted for persons 55 and older. Units must remain age-restricted for a period of not less than 30 years. The project must include an elevator.
Housing for Artists	At least 20 percent of units contain working space for artists, artisans, and similarly situated individuals. For units with working space, the working space must constitute 50 percent of the floor area of the unit, must be a clearly defined area within the unit, and must be reserved for and regularly used as artistic working space by the resident. Retail studio space open to the general public is allowed but not required.
Public Parking	Parking spaces available to the general public equal to 10% of the required number of on-site parking spaces. Parking spaces must be in addition to spaces required for the use.
Public Open Space	On-site public open space with an improvement cost equal to or exceeding 1.5% of total project construction costs. Includes public plazas, courtyards, and other public gathering places that provide opportunities for people to informally meet and gather. Applicant shall grant an easement or other property interest for the perpetual benefit of the public for said open space. Open space must be accessible to the general public. Provisions must be made for ongoing operation and maintenance in perpetuity. [2]
Additional Park Fee	Pay additional park fee equal to 1.5% of total project construction costs. Fee collected must be used for physical park and open space improvements located within one-third mile of the project site. [2]
Public Infrastructure	Public infrastructure improvements equal to 1.5% of total project construction costs. Includes improvements to streets, sidewalks, bicycle facilities, curbs, gutters, sanitary and storm sewers, street trees, lighting, and other public infrastructure beyond the minimum required by the city or other public agency. Improvement may be located on or off site. If improvement is outside of the project site, the improvement must be located within one-third mile of the project site and must be identified in a specific plan, equivalent infrastructure plan, or the city's capital improvement plan (CIP). [2]

Community Benefit	Description
Public Infrastructure In-Lieu Fee	Payment of in-lieu fee for public infrastructure improvements equal to 1.5% of total project construction costs. This benefit is available only if the city has adopted a specific plan or equivalent infrastructure plan for the area containing the project site, or if fee collected will be used for a specific physical infrastructure improvement identified in the city's capital improvement plan (CIP). Fee collected must be used for improvements located within one-third mile of the project site. [2]
Neighborhood-Serving Commercial Use	Minimum 1,500 sq. ft. of on-site space for one or more of the following commercial uses: eating and drinking establishment, food and beverage sales, personal services, retail sales.
Public Art	The project includes a public art component equal to 1.5% of total project construction costs. Public art must be permanent, subject to approval through the public art process, and placed in a prominent and publicly accessible location. [2]
Public Art Fund	Pay into city public art fund equal to 1.5% of total project construction costs. Fee collected must be used for artwork located within one-third mile of the project site. [2]
Other Community Benefits [1]	Other community benefits not listed above as proposed by the applicant that are significant and substantially beyond normal requirements as determined by the review authority through the permit approval process.

Notes:
[1] Available only for Tier 2 and 3 projects.
[2] Total project construction costs shall be estimated at time of building permit issuance and shall not be less than the building cost index for Solano County.

F. **Required Approvals**.

1. Tier 1. Projects requesting Tier 1 incentives require design review conducted by the community development director consistent with Chapter 17.108 BMC (Design Review).
2. Tier 2. Projects requesting Tier 2 incentives require planning commission approval of use permit. As provided in Chapter 17.108 BMC (Design Review), the planning commission conducts design review as part of the use permit process.
3. Tier 3. Projects requesting Tier 3 incentives require city council approval of a development agreement at a noticed public hearing. The development agreement shall be prepared and approved consistent with Chapter 17.116 BMC (Development Agreements) and Government Code Sections 65864

through 65869.5. The planning commission must make a recommendation to the city council on the development agreement at a noticed public hearing. The planning commission and city council conduct design review as part of the development agreement review process.

4. – Employee housing.

G. **Purpose**. This section establishes regulations for employee housing for farmworkers when accessory to a permitted agricultural use.

H. **Standards for Employee Housing for Farmworkers**.

1. Six or Fewer Employees. Employee housing providing accommodations for six or fewer employees shall be deemed to be a single-unit structure with a residential land use, and shall be treated the same as a single-unit dwelling of the same type in the same zoning district.

2. Districts Where Agriculture Uses Are Allowed. The permitted occupancy in employee housing in a zone allowing agricultural uses shall include agricultural employees who do not work on the property where the employee housing is located, and may consist of no more than 36 beds in a group quarters or 12 units or spaces designed for use by a single family or household on land zoned for agricultural uses. Such employee housing shall be considered to be an activity that in no way differs from an agricultural use.

17.90.090 – Condominium conversions.

A. **Section Purpose and Objectives**.

1. Specific Purposes.

a. The conversion of residential structures from one individual ownership to condominiums or any other form of multiple ownership interests creates special community problems, both social and economic.

b. Conversions may significantly affect the balance between rental and ownership housing within the city, and thereby reduce the variety of individual choices of tenure, type, price, and location of housing; increase overall rents; decrease the supply of rental housing for all income groups; displace individuals and families; and disregard the needs of the prevailing consumer market.

c. The purpose of this section is to provide guidelines to evaluate those problems, including the impact any conversion application may have on the community, and to establish requirements which shall be included in any conversion approval.

2. Objectives. This section is enacted for the following reasons:

a. To establish procedures and standards for the conversion of existing multiple-family rental housing to condominiums;

b. To reduce the impact of such conversions on tenants, who may be required to relocate due to the conversion of apartments to condominiums, by providing for procedures for notification and adequate time and assistance for relocation to comparable rental housing and rates;

c. To ensure that purchasers of converted housing have been properly informed as to the physical condition of the structure which is offered for purchase;

d. To ensure that converted housing achieves a high standard of appearance, quality, and safety and is in good condition without hidden needs for maintenance and repair;

e. To provide the opportunity for low- and moderate-income persons to participate in the ownership process, as well as to maintain a supply of rental housing for low- and moderate-income persons; and

f. To ensure that adequate rental housing is available in the community.

B. **Requirements**.

1. In addition to the applicable requirements and procedures set forth in BMC Title 16, Subdivisions, conversions of existing rental housing to condominiums, community apartments, stock cooperatives and any other subdivision which is a conversion of existing rental housing shall be subject to the additional requirements of this section.

2. Such conversions must obtain a use permit pursuant to Chapter 17.104 BMC.

C. **Required Reports and Information**.

1. General.

a. After preliminary applications are accepted for further discretionary review, the applicant shall submit all the information required for a use permit application and a tentative map pursuant to this code. In addition, the applicant shall submit information documenting that the project as a whole will be in good repair on the interior and the exterior when offered for sale. As part of the material necessary for the city to determine this to be the case, and to aid the review of the proposal, the reports and/or information required by this section shall be submitted. The cost of all reports shall be paid by the applicant, and the persons preparing the reports shall be approved by the city. The reports shall include information on what improvements, if any, shall be accomplished by the developer and at what point in the conversion proceedings such improvements shall be completed. All improvements cited in the reports, whether required or voluntary, shall

be considered conditions of approval.

b. The applicant shall be responsible for the remedy of physical conditions within individual units or common areas, noted by a prospective purchaser and/or tenant, which have been missed by inspections or which occur subsequent to the inspections but prior to the close of escrow. In case of disagreement between the applicant and the prospective purchaser as to the actual condition, remedy or cause of deterioration, the burden of proof shall be that of the applicant.

2. Physical Elements Report. A report on the physical elements of all structures and facilities shall be submitted, containing the following:

a. A report by a California-licensed structural or civil engineer detailing the structural condition, useful life, and any apparent deferred maintenance of all elements of the property, including, but not limited to, foundations, electricity, plumbing, utilities, walls, ceilings, windows, frames, recreational facilities, sound transmissions of each building, mechanical equipment, parking facilities, and drainage facilities. Such report also shall describe the condition of refuse disposal facilities; swimming pools, saunas, and fountains; stone and brickwork; fireplaces; and exterior lighting.

b. A report by a California-licensed appliance repair contractor detailing the age, condition, expected size, and the cost of replacement for each appliance and mechanical equipment for heating and cooling. The report shall identify any defective or unsafe appliances and set forth the proposed corrective measures to be employed.

c. A report by a California-licensed structural termite and pest control specialist certifying whether or not all attached or detached structures are free of infestation and structural damage caused by pests and dry rot. The report shall describe what procedures would be necessary to eliminate infestation or damage, if present. Such report shall be updated within six months after the close of escrow, and any infestation shall be remedied prior to sale.

d. Existing soils reports shall be submitted for review with a statement regarding any known evidence of soils problems relating to the structures. As required by the city engineer, a new or revised report shall be prepared by a California-licensed soil engineer on soil or geological conditions on-site or off-site which could adversely affect the project site or structures.

e. A report by a California-licensed painting contractor verifying the condition of the painting throughout the project, including building interior and exterior surfaces and an estimate of the remaining physical life of the paint. A statement that new paint will be applied on all building interior and exterior surfaces may take the place of such report. Such statement shall include

the brand name of the paint and the exterior colors to be used.

f. A report by a California-licensed roofing contractor verifying the condition of the roofs of all structures and an estimate of the remaining physical life of the roofs and the cost of replacement. A statement that new roof material will be applied may take the place of such report. Such statement shall include the type, grade, and color of the proposed roofing material.

g. A declaration of the covenants, conditions, restrictions, and rules and regulations which would be applied on behalf of any and all owners of condominium units within the project. The declaration shall include, but not be limited to: the conveyance of units; the assignment of parking and storage areas; and an agreement for common area maintenance, together with an estimate of any initial assessment fees anticipated for such maintenance, and an indication of appropriate responsibilities for the maintenance of all utility lines and services for each unit. Such documents shall be approved by the city attorney and recorded in the office of the county recorder.

h. Specific information concerning the demographic and financial characteristics of the project, including, but not limited to, the following:

(1) The square footage and number of rooms in each unit;

(2) The rental rate history for each type of unit for the previous three years;

(3) The monthly vacancy rate for each month during the preceding three years;

(4) A complete list of the number of tenants and tenant households in the project, including the following information:

(i) Households with persons 62 years or older;

(ii) The family size of households, including a breakdown of households with children five years and younger; and between five and 18 years;

(iii) Households with handicapped persons;

(iv) The length of residence;

(v) The age of tenants, and

(vi) The designation of low- and moderate-income households and whether receiving federal or state rent subsidies. When the subdivider can demonstrate that demographic information is not available, this requirement may be modified by the community development director.

(5) The proposed price of each of the units;

(6) The proposed homeowners' association budget, detailed to include fixed costs, operating costs, reserves, administration, and contingencies; and

(7) A statement of intent as to the types of financing programs to be made available, including any incentive programs for existing residents.

i. Signed copies from each tenant of the notice of intent to convert, as specified in this section. The applicant shall submit evidence that a certified letter of notification was sent to each tenant for whom a signed copy of such notice is not submitted.

3. Acceptance of Reports. The final form of the physical elements report and other documents shall be approved by the planning commission. The reports in their acceptable form shall remain on file with the department for review by any interested person.

4. Copies to Purchasers. Prior to any purchaser executing any purchase agreement or other contract to purchase a unit in the project, the subdivider shall provide each purchaser with a copy of all reports in their final form as accepted by the planning commission, except that the demographic information required by subsection (A)(8) of this section and copies of the notice to each tenant concerning conversion do not need to be distributed. The developer shall give the purchaser at least five days to review such reports. Copies of the reports shall be made available at all times at the sales office and shall be posted at various locations, as approved by the city.

D. Condominium Conversion Standards.

1. Maximum Number. Each calendar year the number of condominium conversions approved by the city may not exceed 150 units.

2. Inclusionary Housing. A project that converts 10 or more units shall comply with BMC 17.90.050 (Inclusionary Housing).

3. Compliance with Zoning, Building, Housing, Mechanical, and Fire Codes. All units, as well as the common ownership facilities, shall be brought into compliance with all applicable state and local zoning, building, housing, mechanical, and fire codes adopted for use by the city unless, upon approval of the community development director and prior to recordation of the final map or parcel map, funds have been adequately escrowed to assure completion of such corrective work prior to the closing of escrow of any unit in the project.

4. Parking Requirements. The project shall conform to all applicable parking requirements of Chapter 17.74 BMC.

5. Sound Transmission Characteristics and Energy Conservation. The following methods shall be used to regulate noise transmission:

a. Shock Mounting of Mechanical Equipment. All permanent mechanical equipment, such as motors, compressors, pumps, and compactors, which are determined by the building official to be a source of structural vibration or structure-borne noise, shall be shock-mounted in inertia blocks or bases and/or vibration isolators in a manner approved by the building official.

b. Noise Mitigation and Energy Conservation. Energy conservation insulation shall be installed in all heated or cooled buildings, including common ownership structures used for assembly purposes, in accordance with Title 24 of the California Administrative Code, as amended, and in effect on the date building permits are issued for condominium conversion rework. Common walls and common floor/ceiling between units shall be constructed to meet a sound transmission coefficient (STC) rating of 50 or higher.

6. Fire Protection.

   a. Smoke Detectors. Every dwelling unit shall be provided with an AC-powered smoke detector approved by the State Fire Marshal. Installations shall comply with Uniform Building Code Section 1210(a).

   b. Sprinkler and Other Systems. A sprinkler system, fire alarm, and other fire protection devices shall be installed as required by this code.

7. Utilities – Location and Metering.

   a. Location. Each dwelling unit shall be served by gas and electric services completely within the lot lines or ownership space of each separate unit. No common gas or electrical connection or service shall be allowed. Easements for gas and electric lines shall be provided in the common ownership area where lateral service connections shall take place.

   b. Undergrounding. All new utilities, both on-site and off-site, across property frontage shall be underground.

   c. Metering. Each dwelling unit shall be separately metered for gas and electricity. Individual panel boards for electrical current shall be provided for each unit. A plan for the equitable sharing of communal water metering and other shared utilities shall be included in the covenants, conditions, and restrictions.

8. Laundry Facilities. A laundry area shall be provided in each unit, or, if common laundry areas are provided, such facilities shall consist of not less than one automatic washer and dryer for each five units or fraction thereof.

9. Condition of Equipment and Appliances. At such time as the homeowners' association takes over the management of the condominium project, the applicant shall provide a one-year warranty to the association that any pool and/or spa and pool and/or spa equipment (filter, pumps, and chlorinator) and

any appliances and mechanical equipment to be owned in common by the association is in operable working condition. The plumbing and electrical systems in both the dwellings and the common ownership areas shall also be covered by a one-year warranty for proper and safe operation and installation in a safe and workmanlike manner. Such warranty shall be offered by an independent homeowner's warranty service licensed by the California Insurance Commission.

10. Refurbishing and Restoration. All main buildings, structures, fences, patio enclosures, carports, accessory buildings, sidewalks, driveways, landscaped areas, and additional elements as required by the planning commission shall be refurbished and restored as necessary to achieve a high standard of appearance, quality, and safety.

11. Contingency Fees. The intent of the city in requiring the creation of a contingency or reserve fund for condominium conversions is to provide a surety for unexpected or emergency repairs to common areas in the interest of the economic, aesthetic, and environmental maintenance of the community, as well as to protect the general welfare, public health, and safety of the community. Upon the close of escrow for each unit, the applicant shall convey to the homeowners' association's contingency fund a minimum of $200.00 per dwelling unit. When 50 percent or more of the total units in the project have been sold, the applicant, within 30 days, shall convey such fee for each of the unsold units. Such funds shall be used solely and exclusively as a contingency fund for emergencies which may arise relating to open space areas, exterior portions of dwelling units, and such other restoration or repairs as may be assumed by the homeowners' association.

E. Tenant Benefits and Notifications. Applications for condominium conversions shall include the following procedures as they relate to tenant notification:

1. Notices of Intent. A notice of intent to convert shall be delivered to each tenant at least 60 days prior to filing the application for a use permit and a tentative map. Evidence of the receipt of such notice shall be submitted with the application for conversion. The form of the notice shall be in the form outlined by Section 664552.9 of the California Government Code, and shall contain not less than the following:

   a. The name and address of the current owner.

   b. The name and address of the proposed subdivider.

   c. The approximate date on which the application and tentative map are proposed to be filed.

   d. The approximate date on which the final map or parcel map is to be filed.

   e. The approximate date on which the unit is to be vacated by non-purchasing

tenants.

f. The tenant's rights of:

(1) Purchase;

(2) Notification to vacate; and

(3) Termination of the lease.

g. A statement of no rent increase.

h. Provisions for special cases.

i. The provision of moving expenses and the tenant's right to claim any penalty imposed if timely payment is not made.

j. The anticipated price range of the units.

k. The proposed homeowners' association fees.

l. A statement of the types of financing programs to be made available, including any incentive programs for existing residents.

m. A copy of the city's condominium conversion regulations.

2. Notification to Tenants.

a. Two separate stamped, preaddressed envelopes for each resident of each unit shall be furnished to the department by the applicant at the time the subdivider submits an application for a use permit for a conversion. The department shall use one envelope to notify the residents by mailing a copy of the planning commission public hearing notice to tenants not less than 10 days prior to the proposed hearing date on the application. The notice shall include notification of the tenant's right to appear and be heard. The second envelope shall be used by the department to notify the residents of the results of the public hearing by mailing notification of the decision of the planning commission not more than seven days following the planning commission action. Failure of the department to mail such notice shall not invalidate any proceeding or action taken by the city in considering a conversion. The list of names and addresses of the residents of each unit in the conversion project shall be current as of the day of submittal and shall be certified as such by the applicant.

b. Notices to Prospective Tenants. Commencing 60 days prior to the submittal of the application, any prospective tenants shall be notified in writing by the subdivider of the intent to convert prior to leasing or renting any unit pursuant to Section 66452.8 of the California Government Code.

c. Posting Notices. The notice of intent shall be posted on-site in at least one location readily visible to tenants.

3. Tenants' Discounts. Any present tenant of any unit at the time of an application for conversion shall be given a nontransferable right of first refusal to purchase the unit occupied at a discount of the price offered to the general public. The amount of the discount shall be based on the longevity of each tenant, and shall be ratified by the applicant at the time of conversion.
4. Vacation of Units. Each non-purchasing tenant, not in default under the obligations of the rental agreement or lease under which the subject unit is occupied, shall have not less than 120 days after the date of the tentative map approval by the city or until the expiration of the tenant's lease to find substitute housing and to relocate. Tenants shall be permitted to terminate leases or tenancy with one month's notice at any time after a conversion application.
5. No Increase in Rent. A tenant's rent shall not be increased within two months prior to a project application, nor shall the rent be increased for two years from the time of the filing of the project application or until relocation takes place.
6. Special Cases.
    a. All non-purchasing tenants 62 years old or older and all non-purchasing medically proven permanently disabled tenants shall receive lifetime lease. Rents for such tenants shall not be increased for two years after the filing of the project application.
    b. The following non-purchasing tenants shall receive a minimum of 12 months' relocation time, measured from the tentative map approval, to find replacement housing:
        (1) Tenants with low or moderate incomes; and
        (2) Tenants with minor children in school.
7. Moving Expenses. The subdivider shall provide moving expenses equal to three times the monthly rent to any tenant, in compliance with all the terms of the subject lease and/or financing, who relocates from the building to be converted after city approval of the use permit authorizing conversion of the units. When the tenant has given notice of his intent to move prior to city approval of the use permit, eligibility to receive moving expenses shall be forfeited.
8. Relocation Assistance. Relocation assistance shall be provided by the subdivider to nonpurchasing tenants for a minimum period of four months following the tentative map approval. Information on available rental units in the same general area with costs comparable to the preconverted apartments shall be provided by the subdivider on a calendar quarterly basis. Copies of the list shall be posted on-site, dated, and provided to the department.
9. Discrimination. No discrimination in the sale of any unit shall be based on race, color, creed, national origin, sex, sexual orientation, or age, and a statement to

this effect shall be included in the covenants, conditions, and restrictions. Projects created exclusively for the purpose of providing senior citizen housing shall be exempted from this requirement.

10. Certificates of Occupancy. A certificate of occupancy shall be approved by the community development director and issued by the building official prior to the occupancy of units after sales.

F. Effect on Housing Supply. In reviewing requests for the conversion of existing apartments to condominiums, the planning commission shall consider the following:

1. Whether or not the amount and impact of the displacement of tenants, if the conversion is approved, would be detrimental to the health, safety, or general welfare of the community;

2. The role the apartment structure plays in the existing housing rental market. Particular emphasis will be placed on the evaluation of rental structures to determine if the existing apartment complex is serving low-income and moderate-income households;

3. The need and demand for lower-cost home ownership opportunities which are increased by the conversion of apartments to condominiums.

G. Density Bonus for Lower-income Housing. An applicant may request a density bonus and other incentives for a condominium conversion with units to be made affordable to lower-income households. The city shall review and act on such applications consistent with 17.90.030 BMC and Government Code Section 65915.5.

H. Findings. The planning commission may approve an application for a condominium conversion if it finds that the proposed conversion meets the following requirements, in addition to the requirements of BMC 17.104.060:

1. All the provisions of the Subdivision Map Act, this section, and other applicable provisions of this code are met.

2. The proposed conversion is consistent with the general plan, the adopted housing element and any applicable specific plan.

3. The proposed conversion will conform to the provisions of this code in effect at the time of the project approval, except as otherwise provided in this section.

4. The overall design and physical condition of the condominium conversion achieves a high standard of appearance, quality, and safety.

5. The proposed conversion will not displace a significant percentage of low-income or moderate-income, permanently or totally disabled, or senior citizen tenants or delete a significant number of low-income and moderate-income rental units from the city’s housing stock at the time when no equivalent housing is readily available in the Benicia area.

6. The dwelling units to be converted have been constructed and used as rental units for at least three years prior to the application for conversion.

I. Appeals. The decision of the planning commission shall be final on the tenth working day following its action, unless appealed in accordance with Chapter 1.44 BMC.

17.90.100 – Mobile home conversions.

A. **Purpose**. The purpose of the mobile home park conversion procedure is to ensure that any conversion of these parks to other uses is preceded by adequate notice, and that relocation and other assistance is provided park residents consistent with the provisions of the California Government Code, Section 65863.7.

B. **Permit Required**.

1. The conversion of an existing mobile home park to another use shall require a use permit issued in accord with Chapter 17.104 BMC.

2. An application for such permit shall include a description of the proposed new use site and a disposition/relocation plan for existing tenants of the mobile home park.

3. Upon filing an application for conversion, the community development director shall inform the applicant of the requirements of Civil Code Section 798.56 and Government Code Section 65863.8 regarding notification of the mobile home park residents concerning the conversion proposal.

C. **Relocation Plan**.

General.

a. The relocation plan for tenants of a mobile home park shall be submitted to the planning commission for approval as part of the application for conversion of a mobile home park to another use. The plan shall provide specifically for relocation assistance to full-time, low-income and moderate-income residents of the park for a minimum period of 12 months following approval of a use permit for the conversion. Information on sites available in mobile home parks in the city and adjacent communities shall be provided to all tenants.

b. A relocation plan shall include, but not be limited to, consideration of the availability of medical and dental services and shopping facilities, the age of the mobile home park and the mobile homes, and the economic impact on the relocated tenants.

2. Special Cases. The relocation plan shall specifically provide guarantees that all tenants 62 years old or older and all tenants who are medically proven to be permanently disabled shall not have to pay an increase in rent over the amount

currently paid for a period of two years following relocation.

3. Moving Expenses.

    a. The relocation plan shall provide for moving expenses, which are equal to the actual cost of relocating a tenant a maximum of 10 miles from the park, to any tenant who relocates from the park after city approval of the use permit authorizing conversion of the park.

    b. When the tenant has given notice of his intent to move prior to city approval of the use permit, eligibility to receive moving expenses shall be forfeited.

4. No Increase in Rent. A tenant's rent shall not be increased within two months prior to filing an application for conversion of a mobile home park, nor shall the rent be increased for two years from the date of filing of the conversion application or until relocation takes place.

D. **Findings for Conversion**. The planning commission may approve a permit for a mobile home park conversion if it finds that the proposed conversion meets the following requirements in addition to the requirements of BMC 17.104.060:

1. That the proposed use of the property is consistent with the general plan and all applicable provisions of this code are met;

2. That there exists land zoned for replacement housing or adequate space in other mobile home parks for the residents who will be displaced;

3. That the relocation plan mitigates the impacts of the displacement of low- and moderate-income individuals or households for a reasonable transition period and mitigates the impacts of any long-term displacement.

E. **Conditions of Approval**.

1. Consistent with BMC 17.104.070, the planning commission shall impose a relocation plan as a condition of approval of a permit for a mobile home park conversion.

2. In addition, the planning commission may establish the date on which the permit for conversion will become effective. Such date shall not be more than three years from the decision of the planning commission; provided, that conversion at an earlier date may be approved if the applicant has complied with all the provisions of an approved relocation plan and submitted evidence of such compliance to the community development director.

F. Appeals. The decision of the planning commission shall be final on the tenth working day following its action, unless appealed in accordance with Chapter 1.44 BMC.

17.90.110 – Reasonable accommodations.

A. **Purpose and Intent**.

1. The purpose of this section is to provide a process for individuals with disabilities to make requests for reasonable accommodation in zoning and other land use regulations or rules, policies, practices, and/or procedures of the city.
2. It is the intent of the city, pursuant to the Federal Fair Housing Act of 1988 and the California Fair Employment and Housing Act, to provide people with disabilities reasonable accommodation in rules, policies, practices and procedures to ensure equal access to housing and facilitate the development of housing for individuals with disabilities.

B. **Applicability**.

1. Reasonable accommodation in the land use and zoning context means providing individuals with disabilities or developers of housing for people with disabilities flexibility in the application of land use and zoning and building regulations, policies, practices and procedures, or even waiving certain requirements, when it is necessary to eliminate barriers to housing opportunities.
   In order to make specific housing available to an individual with a disability, any person may request a modification or exception to the rules, standards and practices for the siting, development and use of housing or housing-related facilities that would eliminate regulatory barriers and provide a person with a disability equal opportunity to housing of their choice.
2. The provisions of this section apply to all zoning districts including overlay districts and all adopted local area and specific plans, and to BMC Title 15, Building and Construction, regulations.
3. A person with a disability is a person who has a physical or mental impairment that limits or substantially limits one or more major life activities, anyone who is regarded as having such impairment or anyone that has a record of such impairment. This section applies only to those persons who are disabled as defined herein.

C. **Definitions**. The following words and phrases, whenever used in this section, shall be construed as hereafter set out, unless it shall be apparent from the context that they have a different meaning.

1. “Act” means the Fair Housing Amendments Act of 1988.
2. “Applicant” means an individual making a request for reasonable accommodation pursuant to this section.
3. “Disability” means, with respect to an individual, a medical, physical or mental impairment that limits one or more major life activities, as those terms are

defined in California Government Code Section 12926; anyone who is regarded as having such a condition; or anyone who has a record of having such a condition. The term “disabled person” does not include a person who is currently using illegal substances, unless he or she has a separate disability.

D. **Requesting Reasonable Accommodation**.

1. In order to make specific housing available to an individual with a disability, the applicant may request reasonable accommodation relating to the various land use, zoning, or rules, policies, practices, and/or procedures of the city. Such a request may include a modification or exception to the requirements for the siting, development and use of housing or housing-related facilities that would eliminate regulatory barriers. A reasonable accommodation cannot waive a requirement for a use permit when otherwise required or result in approval of uses otherwise prohibited by the city’s land use and zoning regulations.
2. If the applicant needs assistance in making the request for reasonable accommodation or appealing a determination regarding reasonable accommodation, the community development director will provide the assistance necessary to ensure that the process is accessible to the applicant.
3. A request for reasonable accommodation in laws, rules, policies, practices and/or procedures may be filed on an application form provided by the department at any time that the accommodation may be necessary to ensure equal access to housing.
4. A reasonable accommodation does not affect an applicant’s obligation to comply with other applicable regulations not at issue in the requested reasonable accommodation.
5. If the project for which the reasonable accommodation is being requested also requires some other discretionary approval (such as conditional use permit, architectural review, general plan amendment, zoning amendment, subdivision map), then the applicant shall submit the reasonable accommodation application first for a determination by the community development director, before proceeding with the other applications.

E. **Required Information**.

1. The applicant shall submit a request for reasonable accommodation on a form provided by the planning division. The application shall include the following information:
    a. The applicant’s name, address, telephone number, and e-mail address, if available.
    b. Address of the property for which the request is being made.
    c. The name and address of the property owner, and the owner’s written

consent to the application.

d. The current and proposed use of the property.

e. The basis for the claim under the Act, that the fair housing laws apply to the individual(s) with a disability and evidence supporting the claim, including the effects on the person's limitations as it relates to the request, which may be in the form of a letter from a medical doctor or other licensed healthcare professional, handicapped license, or other appropriate evidence.

f. Description of the requested accommodation, and the rule, policy, practice and/or procedure of the city for which the request for accommodation is being made.

g. Copies of memoranda, correspondence, pictures, site plans, floor plans, or background information reasonably necessary to reach a decision regarding the need for the accommodation.

h. Such other relevant information as may be requested by the community development director as determined necessary to makes the findings required by BMC 17.132.070, so long as any request for information regarding the disability of the individuals benefited complies with the Act and the privacy rights of the individual(s) affected.

2. Any information identified by the applicant as confidential shall be retained by the city in a manner that respects the privacy rights of the individual with a disability and shall not be made available for public inspection.

F. **Reviewing Authority – Decision**.

1. Requests for reasonable accommodation shall be reviewed by the community development director or their designee.

2. The community development director or their designee shall issue a written decision on a request for reasonable accommodation and may either grant, grant with modification, or deny a request for reasonable accommodation in accordance with the required findings set forth in BMC 17.132.070.

G. **Required Findings for Reasonable Accommodation**. In making a determination regarding the reasonableness of a requested reasonable accommodation, the approving authority shall make the following findings:

1. The housing which is the subject of the request for reasonable accommodation will be used for an individual(s) with a disability protected under the Act.

2. The request for reasonable accommodation is necessary to make specific housing available to an individual(s) with a disability protected under the Act.

3. The requested reasonable accommodation does not impose an undue financial or administrative burden on the city.

4. The requested accommodation will not require a fundamental alteration of the zoning and building laws, policies and/or procedures of the city.

H. **Effective Date – Appeals**.

1. All written decisions shall give notice of the applicant's right to appeal and to request reasonable accommodation in the appeals process as set forth in Chapter 1.44 BMC.
2. If an individual(s) needs assistance in filing an appeal on an adverse decision, the city will provide assistance to ensure that the appeals process is accessible.
3. The written decision of the community development director or their designee shall be final unless appealed.
4. While a request for reasonable accommodation is pending, all laws and regulations otherwise applicable to the property that is the subject of the request shall remain in full force and effect.

I. **Fee**. There shall be no fee imposed in connection with a request for reasonable accommodation under the provisions of this section.

17.90.120 – Small lot subdivisions and development.

A. **Purpose and Intent**.

1. This section establishes requirements for the ministerial approval of subdivisions creating 10 or fewer parcels and dwelling units ("small lot subdivision") pursuant to Government Code Sections 65852.28, 65913.4.5, and 66499.41.
2. Small lot subdivision requirements are intended to facilitate new residential development
3. consistent with the general plan, promote orderly growth and development, and to protect the public health, safety and general welfare.

B. **Eligibility**. The city shall accept an application for a small lot subdivision only if the application complies with all of the following requirements.

1. Zoning. The lot is zoned one of the following:
    a. A residential district (RS, RM, RH, HZ).
    b. A mixed use district (MU-I, MU-L).
    c. Waterfront commercial (CW).
    d. Town core-open (TC-O).
    e. Neighborhood general (NG)
    f. Neighborhood general-open (NG-O).

2. Existing Parcel Size.
    a. In the RS zoning district, the area of a lot is no larger than 1.5 acres.
    b. In all other zoning districts, the area of the lot is not larger than 5 acres.
3. Existing Use – RS District. A lot zoned RS must be vacant. As used in this section, “vacant” means having no permanent structure, unless the permanent structure is abandoned and uninhabitable. All of the following types of housing are not defined as “vacant”:
    a. Housing that is subject to a recorded covenant, ordinance, or law that restricts rent or sales price to levels affordable to persons and families of low, very low, or extremely low income.
    b. Housing that is subject to any form of rent or sales price control through the city’s valid exercise of its police power.
    c. Housing occupied by tenants within the five years preceding the date of the application, including housing that has been demolished or that tenants have vacated prior to the submission of the application for a development permit.
4. Surrounding Uses. The lot is substantially surrounded by qualified urban uses as currently defined in Sections 21072 and 21159.25 of the Public Resources code.
    a. “Qualified urban use” means any residential, commercial, public institutional, transit or transportation passenger facility, or retail use, or any combination of those uses
    b. “Substantially surrounded” means at least 75 percent of the perimeter of the project site adjoins, or is separated only by an improved public right-of-way from, parcels that are developed with qualified urban uses. The remainder of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from, parcels that have been designated for qualified urban uses in a zoning, community plan, or general plan for which an environmental impact report was certified.
5. Lot Establishment. The lot was not established pursuant to BMC 17.90.130 (Small Lot Subdivisions) or BMC 16.32.120 (Urban Lot Splits).
6. Affordable and Rental Housing. The application would not require demolition or alteration of any of the types of housing identified in Government Code paragraph (8) of subdivision (a) of Section 66499.41.
7. Environmental Resources and Hazards. The lot satisfies the requirements of Government Code paragraph (9) of subdivision (a) of Section 66499.41, which prohibits development on sites subject to specified environmental resources and hazards.

C. **Subdivision Maps**.

1. Ministerial Approval. A small lot subdivision that complies with all standards in this section shall be approved ministerially with either a parcel map or a tentative map and final map consistent with BMC 16.08.060 (Objective subdivision review). No other permit, discretionary review, or public hearing is required.

2. Permitting Process.

   a. Time Period for City Action.

      (1) The city shall approve or deny the application within 60 days from the date the city receives a completed application. If the applicant requests a delay in writing, the 60-day time period shall be tolled for the period of the delay.

      (2) If the city does not approve or deny the completed application within 60 days, the application shall be deemed approved.

      (3) If the city denies the application, the city shall, within 60 days from the date the city receives the completed application, provide written comments to the applicant that:

         (i) List the items that are defective or deficient; and

         (ii) Describe how the application can be remedied by the applicant.

   b. Basis for Denial. The city may deny the application if either of the following apply:

      (1) The application fails to comply with any requirement in this section. Any such requirement that is the basis for denial shall be specified by the city in writing.

      (2) The city makes a written finding, based upon a preponderance of the evidence, that the proposed subdivision would have a specific, adverse impact, as defined and determined in paragraph (2) of subdivision (d) of Government Code Section 65589.5, upon public health and safety and for which there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact.

3. General Requirements. A small lot subdivision shall comply with all of the following requirements.

   a. Number of New Parcels and Units.

      (1) The subdivision may create no more than 10 parcels and may contain no more than 10 residential units.

      (2) Each newly created lot may contain no more than one residential unit.

(3) The subdivision may designate a remainder parcel, as defined in Government Code Section 66424.6, and the remainder parcel shall not be counted against the 10 parcel maximum.

b. Development on Each Parcel.

(1) Except as set forth in subsection (2) below, at least one dwelling must be developed on each newly created parcel that does not already contain an existing legally permitted residential structure or is reserved for internal circulation, open space, or common area.

(2) A remainder parcel, as defined in Government Code Section 66424.6, may be designated that retains existing land uses or structures, does not contain any new residential units, and is not exclusively dedicated to serving the housing development project.

c. Accessory Dwelling Units. An accessory dwelling unit (ADU) or junior accessory dwelling (JADU) unit is not permitted on a newly created parcel.

d. Minimum Parcel Size.

(1) In the RS zoning district, newly created parcels shall be no smaller than 1,200 square feet.

(2) In all other zoning districts, newly created parcels shall be no smaller than 600 square feet.

e. Form of Ownership. Dwelling units on the newly created parcels shall be one of the following:

(1) Constructed on fee simple ownership lots.

(2) Part of a common interest development.

(3) Part of a housing cooperative, as defined in Civil Code Section 817.

(4) Constructed on land owned by a community land trust as defined in and meeting the requirements of Government Code Section 66499.41.

(5) Part of a tenancy in common, as described in Section 685 of the Civil Code.

f. Minimum Density. The subdivision must meet one of the following:

(1) If the existing parcel is identified in the Housing Element for the current planning period, the subdivision must result in at least as many units as projected for the parcel in the Housing Element.

(2) If the existing parcel is not identified in the Housing Element for the current planning period, the subdivision must result in at least 66 percent of the maximum density allowed in the applicable zoning district or 13.2 units per acre, whichever is greater. For parcels in a zoning

district without a maximum density, the subdivision must result in at least 13.2 units per acre.

g. Unit Affordability. The subdivision shall comply with both of the following:

   (1) The subdivision shall comply with BMC 17.90.050 (Inclusionary Housing).

   (2) If the parcel is identified in the Housing Element for the current planning period to accommodate low- or very low income households, the subdivision must result in at least as many low- or very low income units as projected in the Housing Element. Such units shall be subject to a recorded affordability restriction of at least 45 years.

h. Maximum Floor Area.

   (1) The average total area of floor space of the dwelling units shall not exceed 1,750 net habitable square feet.

   (2) For purposes of this subdivision, “net habitable square feet” means the finished and heated floor area fully enclosed by the inside surface of walls, windows, doors, and partitions, and having a headroom of at least 6.5 feet, including working, living, eating, cooking, sleeping, stair, hall, service, and storage areas, but excluding garages, carports, parking spaces, cellars, half-stories, and unfinished attics and basements.

i. Map Act Compliance. The subdivision shall conform to all applicable objective requirements of the Subdivision Map Act (commencing with Government Code Section 66410), except as otherwise expressly provided in this section and Government Code Section 66499.41.

j. Compliance with Dwelling Unit Standards. The subdivision shall comply with all applicable standards in Section D (Unit Development) below and Government Code Section 65852.28.

k. Utilities. The newly created parcels shall be served by a public water system and a municipal sewer system.

l. Existing Dwelling Units. The proposed subdivision shall not result in any existing dwelling unit being alienable separate from the title to any other existing dwelling unit on the lot.

m. Objective Standards. The proposed subdivision shall comply with all applicable objective zoning standards, objective subdivision standards, and objective design review standards that are not inconsistent with this section or Government Code Sections 65852.28 and 66499.41.

n. Homeowners Association. The city shall not require the proposed

development to form a homeowners' association, except as required by the Davis-Stirling Common Interest Development Act (Part 5 (commencing with Section 4000) of Division 4 of the Civil Code).

o. Urban Lot Splits. A newly created parcel may not be further subdivided with an urban lot split as provided in Government Code Section 66411.7.

D. **Unit Development**. The following requirements apply to a proposed dwelling unit on a lot created through a small lot subdivision.

1. Ministerial Approval. A dwelling unit that complies with all standards in this section shall be approved ministerially upon issuance of a building permit. No other permit, discretionary review, or public hearing is required.

2. Building Permits.

a. General. The city shall issue a building permit for a dwelling unit on a lot created through a small lot subdivision if both of the following conditions are met:

(1) The city has approved a tentative map or parcel map for the subdivision; and

(2) The city has deemed the building permit application complete and in compliance with all applicable standards.

b. Application Information and Materials.

(1) The city shall provide the applicant with one or more lists that specify in detail the information required for the building permit application. The city shall post such list or lists to the city's website.

(2) The city shall direct the applicant to an example of a complete, approved building permit application for either:

(i) A small lot subdivision project; or

(ii) Another type of housing development project as specified in Government Code Section 65913.3(a)(2) if the city has not approved a building permit for a small lot subdivision.

c. Completeness Review.

(1) The city shall determine if the application the building permit application is complete and provide written notice of this determination to the applicant not later than 15 working days after the city receives the application.

(2) If the city determines that the application is incomplete, the city shall provide the applicant with a list of incomplete items and a description of how the application can be made complete. The city may require only

the items that are included in the posted list.

(3) If the city determines that the building permit application is complete the city shall immediately notify the applicant of the determination via email.

d. Conditions and Guarantees.

(1) The city may condition issuance of the building permit on recordation of a covenant and agreement that a certificate of occupancy will not be issued until the final map has been recorded.

(2) Any dedication, improvement, and sewer requirements in the approved tentative or parcel map (or conditions of approval) must be guaranteed at the time of building permit issuance, and the city may require security up to 300 percent of the cost of the improvement/work to be performed.

3. Standards.

a. General.

(1) Dwelling units shall comply with all applicable objective zoning, subdivision, and design review standards related to the housing development or to the design or improvement of a parcel.

(2) Notwithstanding subsection (1) above, the city shall not impose any standard that:

(i) Conflicts with a standard in BMC 17.90.130 or Government Code Sections 65852.28 and 66499.41; or

(ii) Physically precludes the development of a project built to the minimum allowed densities specified in 17.90.130.C.3.f (Minimum Density).

b. Setbacks.

(1) No required yard between dwelling units is established, though building separation may be required by the California Building Code (Title 24 of the California Code of Regulations).

(2) Required rear and side yards adjoining an existing lot line are 4 feet, except that no yard is required for an existing legally created structure or a structure constructed in the same location and to the same dimensions as an existing legally created structure.

(3) A minimum front yard adjoining an existing lot line is as required in the applicable zoning district.

c. Parking.

(1) A minimum of one off-street parking space is required per dwelling unit except as provided in Subsection 2 below. Required parking spaces may be unenclosed and uncovered.
(2) No off-street parking is required in the following cases:
    (i) The newly created parcel is located within one-half mile walking distance of either a high- quality transit corridor, as defined in subdivision (b) of Section 21155 of the Public Resources Code, or a major transit stop, as defined in Section 21064.3 of the Public Resources Code.
    (ii) There is a car share vehicle located within one block of the newly created parcel. A car share vehicle means a motor vehicle that is operated as part of a regional fleet by a public or private car sharing company or organization that meet all the following criteria:
        (a) Provides hourly or daily service;
        (b) Vehicle reservations are processed and paid for using an on-line system;
        (c) Vehicles can be accessed where they are parked without having to go to a different physical location to execute a contract and/or pick up the keys; and
        (d) Fleet has more than five cars in Benicia and more than twenty cars in Solano County.

d. Floor Area Ratio. Any floor area ratio standard established in the Zoning Ordinance does not apply to a dwelling unit on a lot created through a small lot subdivision.

17.90.130 – Rebuilding multifamily dwellings.

The city shall allow for the reconstruction, restoration, or rebuilding of a multifamily dwelling that is involuntarily damaged or destroyed as provided in Government Code Section 65852.25.

17.90.140 – Multi-unit development in the RS district.

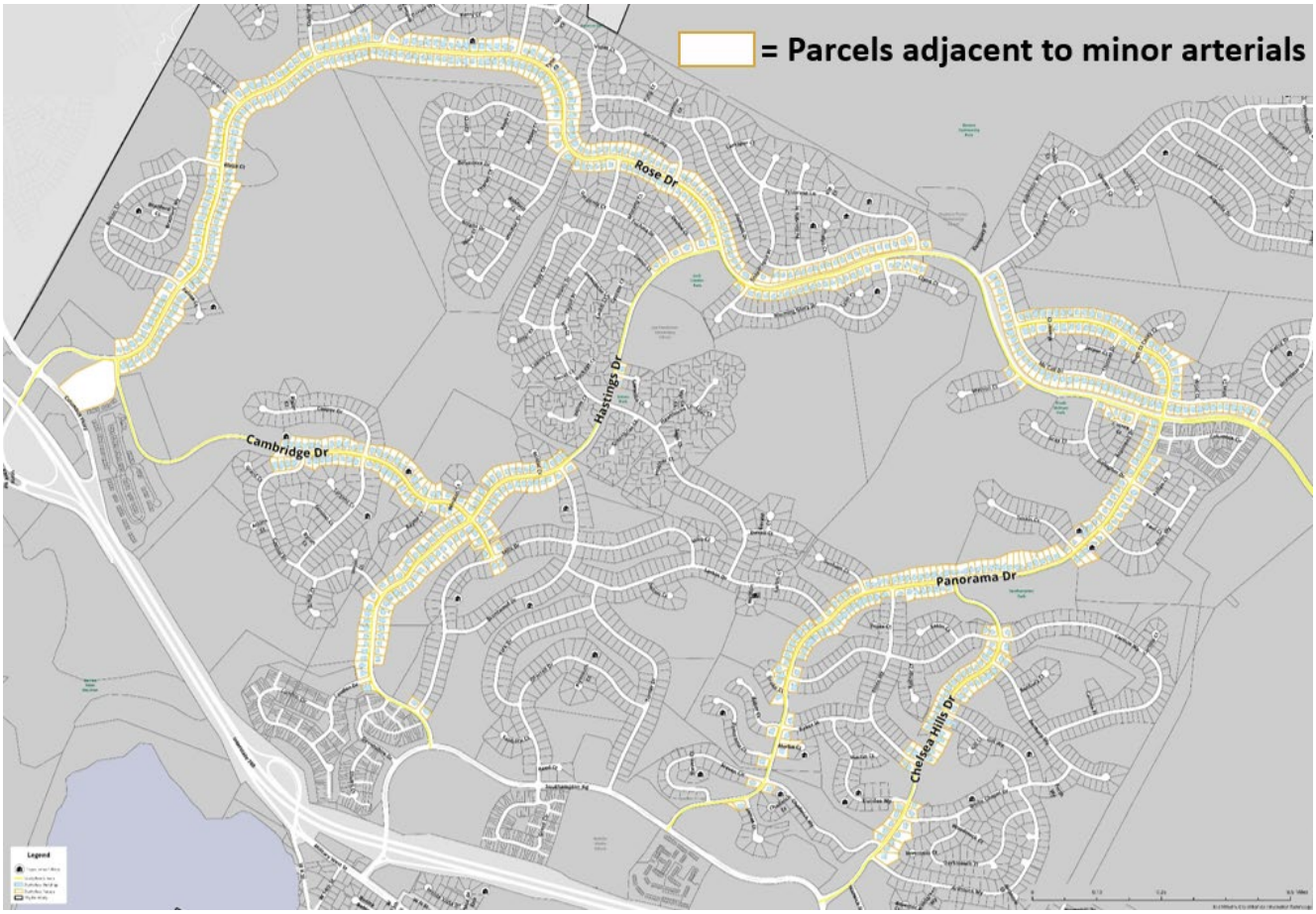
A. **Purpose**.

1. The purpose of this section is to advance the goals of the Housing Element by encouraging multi-unit SB 9 development in specified locations in the RS zoning district.
2. As used in this section, the term “SB 9 units” means dwelling units proposed pursuant to Government Code Sections 66411.7 and 65852.21.

B. **Applicability**. This section applies to sites located adjacent to minor arterial

roadways in Census Tracts 2521.4, 2521.5, 2521.6, and 2521.7 (Rose Drive, Cambridge Drive, Hastings Drive, Panorama Drive, Chelsea Hills Drive). See Figure 17.90-1.

Figure 17.90-1: Parcels Adjacent to Minor Arterials in in Census Tracts 2521.4, 2521.5, 2521.6, 2521.7



C. **Standards**. Proposed SB 9 units on sites identified in Figure 17.90-1 are subject to the following standards:

1. General. Except as modified below, the SB 9 units shall comply with all applicable standards in Government Code Sections 66411.7 and 65852.21.
2. Maximum Height and Floor Area.
    a. For SB 9 units that comply with the minimum yard requirements of the RS district, the maximum building height is 25 feet and the maximum unit size is 1,250 square feet.
    b. For SB 9 units that do not comply with the minimum yard requirements of the RS district, the maximum building height is 16 feet and the maximum unit size is 800 square feet.

3. Coverage. The maximum lot coverage is 50 percent.

4. Exceptions to Standards.

    a. For SB 9 units that comply with the minimum yard requirements of the RS district, the city shall not impose any objective Zoning Code standards that would physically preclude units with a height of up to 25 feet and a unit size of up to 1,250 square feet.

    b. For example, if the minimum site landscaping standard in the R-S district (minimum 35 percent) would physically preclude proposed SB 9 units of up to 1,250 square feet, the city shall grant an exception to the site landscaping standard for the proposed SB 9 units.

    c. The development services director shall grant an exception to the applicable standard to the minimum extent necessary to comply with this section.

17.90.150 – Housing for religious and community institutional uses.

A. Purpose and Intent. This section is supplementary to California Government Code Section 65913.16, and establishes regulations to permit housing development, inclusive of affordable housing, on properties owned, operated, and developed by religious and certain community institutional uses, in order to expand upon the provisions of California Government Code Section 65913.16 by:

    1. Accommodating housing consistent with 2023-2031 Housing Element, and any amendments thereto;

    2. Expanding opportunities for housing, including affordable housing, in association with religious and community institutions;

    3. Enabling efficient use and development of land resources;

    4. Providing appropriate standards and criteria for reviewing proposals for new construction and other development subject to the provisions of this section; and

    5. California Government Code Section 65913.16 regulations shall apply to the use classifications outlined in this section.

B. Applicability.

    1. This section permits multifamily and accessory dwelling units (ADUs) in association with religious and community institutional uses, where such uses exist as of January 1, 2024, and are permitted or conditionally permitted in the following districts or zones:

        a. Residential (R) Districts. Single-family residential (RS), medium-density residential (RM), and high-density residential (RH).

        b. Commercial (C) Districts. Community commercial (CC), office commercial (CO), and general commercial (CG).

c. Public and semipublic (PS) district.

d. Downtown Mixed Use Master Plan (DMUMP). Neighborhood general-open (NG-O) and town core-open (TC-O).

2. For the purposes of this section, religious and community institutional uses include the following use classifications only:

a. Religious assembly uses;

b. Convalescent facilities; and

c. Emergency shelters.

3. Accessory Use. Housing units permitted pursuant to this section shall be considered accessory to the main use of the site and shall not be considered to exceed the allowable density for the lot or parcel upon which they are located.

a. Limited Application. This section shall apply only to a religious and a community institution use for the purposes specified in subsection (B)(2) of this section.

b. This section shall be applied in combination with the requirements of Government Code Section 65913.16 as they currently exist or may hereinafter be amended.

C. Use Regulations.

1. ADUs. Up to four accessory dwelling units (ADUs) and up to four junior accessory dwelling units (JADUs) shall be permitted if compliant with the provisions of this section, qualifies and meets criteria of Government Code Section 65913.16 and in accordance with the procedures and standards of BMC 17.70.060 when affordable housing development may not be feasible.

2. Multifamily. Up to four multifamily units shall be permitted, when compliant with the provisions of this section, as well as qualifies and meets criteria of Government Code Section 65913.16.

3. Notwithstanding subsections (C)(1) and (C)(2) of this section, up to a total of eight dwelling units (inclusive of ADUs and multifamily units) may be permitted on an eligible site.

D. Parking. Parking shall be required for residential uses pursuant to Chapter 17.74 BMC; except as otherwise provided in Government Code Section 65913.16.

E. Design Standards.

1. ADUs and JADUs shall comply with all standards of BMC 17.70.060.

2. Multifamily units shall comply with the objective planning and design standards pursuant to BMC 17.70.430. In addition, the following standards shall be applicable in a R, C or PS district:

a. Upper Story Massing. A third story must be stepped back from the primary street at least 10 feet for a minimum of 35 percent of the facade length. Recessed area may be used as a balcony, terrace, or other usable open space.

b. Balconies. A balcony above the ground floor shall not project more than three feet from any exterior building wall that faces the side yard of an adjacent residential use.

F. Development Plan Review.

1. ADUs and JADUs provided pursuant to this section are exempt from design review pursuant to BMC 17.108.020. Development plans shall be reviewed in accordance with the permitting process identified in BMC 17.70.060.

2. Multifamily housing provided pursuant to this section shall be reviewed in accordance with BMC 17.108.020(C)(1), Objective Ministerial Review – Use by Right.

Section 4.

Subsection B of Section 16.36.040 (Condominium form and content) of Chapter 16.36 (Condominiums) of Title 16 (Subdivisions) of the Benicia Municipal Code is hereby amended to read as follows:

"B. Residential condominium conversions shall additionally comply with the requirements of BMC ~~Chapter~~ Section 17.90.100 ~~BMC~~ (Condominium Conversions)."

Section 5.

Section 17.08.040 (Rules for interpretation) of Chapter 17.08 (Organization, Applicability, and Interpretation) of Title 17 (Zoning) of the Benicia Municipal Code is hereby amended to add a new Subsection D as follows:

"D. References to Other Laws and Regulations. Whenever reference is made to a law or regulation, including definitions contained therein, it will be construed as a reference to the most recent edition of such law or regulation, unless specifically stated."

Section 6.

Section 17.12.030 (Definitions) of Chapter 17.12 (Definitions) of Title 17 (Zoning) of the Benicia Municipal Code is hereby amended to add the following new accessory dwelling unit definition:

"Accessory dwelling unit (ADU) means an attached or a detached residential dwelling unit that provides complete independent living facilities for one or more persons and is located on a lot with a proposed or existing primary residence. It shall include

permanent provisions for living, sleeping, eating, cooking, and sanitation on the same parcel as the single-family or multifamily dwelling is or will be situated. An accessory dwelling unit also includes an efficiency unit and a manufactured home, as defined in California Health and Safety Code Sections 17958.1 and 18007.

a. Attached Accessory Dwelling Unit. An accessory dwelling unit that shares at least one common wall with the primary dwelling and is not fully contained within the existing space of the primary dwelling or an accessory structure.

b. Detached Accessory Dwelling Unit. An accessory dwelling unit that does not share a common wall with the primary dwelling and is not fully contained within the existing space of an accessory structure.

c. Internal Accessory Dwelling Unit. An accessory dwelling unit that is fully contained within the existing space of the primary dwelling or an accessory structure."

Section 7.

Section 17.12.030 (Definitions) of Chapter 17.12 (Definitions) of Title 17 (Zoning) of the Benicia Municipal Code is hereby amended to add the following new junior accessory dwelling unit definition:

"Junior accessory dwelling unit" (JADU) means a unit that is no more than 500 square feet of interior livable space in size and contained entirely within a single-family residence. A junior accessory dwelling unit may include separate sanitation facilities or may share sanitation facilities with the existing structure."

Section 8.

Section 17.16.080 (Accessory use classifications) of Chapter 17.16 (Use Classifications) of Title 17 (Zoning) of the Benicia Municipal Code is hereby amended as follows:

"1. Accessory Dwelling Unit. See Section 17.12.030 (Definitions).

Section 9.

Note L-1 to the CC, CO, CG, and CW Districts: Land Use Regulations table in Section 17.28.020 (CC, CO, CG, and CW districts – Land use regulations) of Chapter 17.28 (C Commercial Districts) of Title 17 (Zoning) of the Benicia Municipal Code is hereby amended as follows:

"L-1 Permitted only when located on upper floors above a ground floor non-residential use in a mixed-use residential building."

Section 10.

Chapter 17.70 (General Regulations) of Title 17 (Zoning) of the Benicia Municipal Code is hereby amended to add the following new Section 17.70.360 (Protection of Designated Views):

"**17.70.360 Protection of designated views.**

A. **Purpose.** This section establishes objective standards to ensure that new development does not block protected public views from designated vantage points.

B. **Applicability.** View protection standards in this section apply to proposed development visible from a designated vantage point as shown in Figure 17.70-1.

C. **Definitions.**

"Designated vantage point" means the locations shown in Figure 17.70-1 and Table 17.70-1.

"Protected view" means views from designated vantage points of specific features as identified in Table 17.70-1.

Figure 17.70-1: Designated Vantage Points

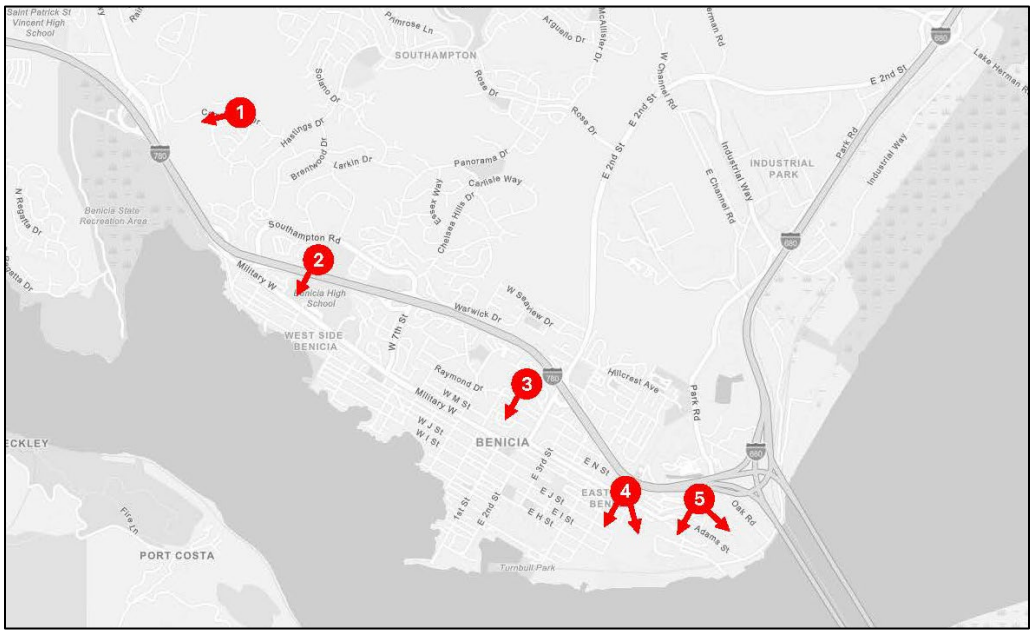


Table 17.70-1: Protected Views

View ID	Vantage Point		Protected View
	Location	Coordinates	
1	Cambridge Drive	38.07906° N, 122.18377° W	Benicia State Recreation Area; Vallejo hillsides

2	Benicia Middle School	38.06866° N, 122.17149° W	Carquinez Strait; Martinez shoreline and hillsides
3	Benicia City Cemetery Scenic Overlook	38.05706° N, 122.15330° W	City of Benicia south of Military East and West; Carquinez Strait; Martinez shoreline and hillsides
4	East Seventh Street	38.04978° N, 12214230° W	Carquinez Strait; Martinez shoreline and hillsides
5	Park Road	38.04979° N, 122.13462° W	Benicia-Martinez Bridge; Carquinez Strait; Martinez shoreline and hillsides; Mount Diablo

D. **View Protection Standard.**

1. New development, including any addition(s) to an existing structure, shall not block any portion of a protected view from a designated vantage point except as allowed by Subsection 2 below.
2. An applicant may request an exception to the view protection standard in Subsection 1 above through the discretionary design review process as provided in BMC Chapter 17.108 (Design Review). To approve the exception, the review authority must find that:
    a. Complying with the view protection standard in Subsection 1 above would physically preclude the development at the proposed density; and
    b. There is no feasible alternative project design to both achieve the proposed density and comply with the view protection standard in Subsection 1.
    c. Impacts to protected views have been minimized to the greatest extent feasible.
3. For projects requesting an exception to the view protection standard as provided in Subsection 2 above, the applicant must prepare a photosimulation for the proposed project as provided in Subsection F below.

E. **Application Review Process.**

1. The development services department will review all development applications to determine if the proposed project has the potential to block a protected view.

2. The development services department will determine if the proposed project is visible from a designated vantage point based on a review of project plans, site observation, and other methods as deemed necessary.

3. If the proposed project is not visible from a designated vantage point, the project shall be deemed consistent with the view protection standard set forth in this section.

4. If the proposed project is visible from a designated vantage point, the applicant shall provide information and materials as deemed necessary by the development services department to determine if the new development has the potential to block a protected view. Such information and materials may include story poles and/or a line-of-sight analysis using a digital surface model of the proposed project vicinity.

5. If requested information and materials demonstrate that new development does not have the potential to block a protected view, the project shall be deemed consistent with the view protection standard set forth in this section.

6. If requested information and materials demonstrate that new development has the potential to block a protected view, as determined by the development services department, the applicant shall prepare a photosimulation in a manner described in BMC 17.70.360.F.

7. If a photosimulation is prepared, the development services department shall find the proposed project consistent with the view protection standard set forth in this section only if:

    a. The photosimulation shows that new development will not block any portion of a protected view; or

    b. The review authority allows the new development to block up to 50 percent of a protected view upon making the findings in Subsection D.2 above.

F. **Photosimulation Methodology.** Photosimulations shall be prepared using the following methodology.

1. **Baseline Photograph.**

    a. A baseline photograph shall be taken from within 10 feet of the coordinates shown in Table 1.

    b. The camera must be positioned and oriented so that the field of view in the new photograph maximizes visibility of protected view features.

    c. New photographs must be taken using a minimum 10-megapixel digital single lens reflex camera equipped with a 50-millimeter equivalent focal length lens.

2. **Modeling.**

a. An applicant shall use AutoCAD or other equivalent computer software to create a 3D model of proposed structures.

b. The 3D model may show proposed structures as articulated massings; complete architectural details are permitted but not required.

c. Modeled structures must be consistent with proposed project plans and accurate in regards to position, elevation, and topography.

3. **View Alignment and Simulation Generation.**

a. The photosimulation must be generated with the 3D model accurately aligned with the baseline photograph. Proposed structures must be placed and scaled accurately in the context of existing conditions.

b. The photosimulation must show new trees and other landscaping with a height of 4 feet or more at maturity. Existing vegetation that will be removed from the sight must be removed from the photosimulation."

Section 11.

Section 17.70.430 (Objective planning and design standards for mixed use residential and multifamily development projects) of Chapter 17.70 (General Regulations) of Title 17 (Zoning) of the Benicia Municipal Code is hereby amended to add a new Subsection C as follows:

"C. Development on a parcel in the Housing Element Sites Inventory (Housing Element Appendix D, Table A) that complies with the view protection standard in BMC 17.70.360.D shall be deemed consistent with the design review finding that the project does not block city-designated scenic views and vistas as set forth in Chapter 17.108 BMC."

Section 12.

All references in the Benicia Municipal Code shall be updated as shown in the following table, with "previous" references changed to "new" references, and all subsection references within these chapters and sections shall be updated as needed.

	Referenced Sections	
	Previous	**New**
Accessory Dwelling Units	17.70.060	17.90.020
Affordable Housing Density Bonus	17.70.270	17.90.030
Manufactured Homes	17.70.280	17.90.040
Inclusionary Housing	17.70.320	17.90.050
Emergency Shelters	17.70.390	17.90.060

Objective Design Standards	17.70.430	17.90.070
Community Benefits Program	17.70.440	17.90.080
Employee Housing	17.70.460	17.90.090
Condominium Conversions	17.90	17.90.100
Mobile Home Conversions	17.94	17.90.110
Reasonable Accommodations	17.132	17.90.120
Housing for Religious and Community Institutional Uses	17.70.470	17.90.160

Section 13.

Severability. If any section, subsection, phrase or clause of this ordinance is for any reason held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance.

The City Council hereby declares that it would have passed this and each section, subsection, phrase or clause thereof irrespective of the fact that any one or more sections, subsections, phrase or clauses be declared unconstitutional on their face or as applied.

Section 14.

Publication. The City Clerk is hereby ordered and directed to certify the passage of this Ordinance by the City Council of the City of Benicia, California and cause the same to be published in accordance with State law.

Section 15.

Effective Date. This Ordinance shall be in full force and effective thirty (30) days after its adoption and shall be published and posted as required by law.

*****

On motion of Council Member , seconded by Council Member , the foregoing ordinance was introduced at a regular meeting of the City Council on the day of 2025, and adopted at a regular meeting of the Council held on the day of 2025, by the following vote:

Ayes:

Noes:

Absent:

Abstain:

_____
Steve Young, Mayor

Attest:

_____
Lisa Wolfe, City Clerk

_____
Date

AGENDA ITEM
CITY COUNCIL MEETING DATE – DECEMBER 16, 2025
BUSINESS ITEM

TO : City Manager

FROM : Deputy City Manager

SUBJECT : **DISCUSSION ITEM - PORT OF BENICIA FACILITIES AND INFRASTRUCTURE MODERNIZATION PLAN - STATUS UPDATE ON DELIVERABLE 1 (INFRASTRUCTURE ASSESSMENT) AND DELIVERABLE 2 (PORT DEMAND, CAPACITY, AND CIRCULATION/TRANSPORTATION ANALYSIS)**

EXECUTIVE SUMMARY:

The City is actively implementing the Port of Benicia Facilities and Infrastructure Modernization Plan, funded by a $750,000 Priority Production Area (PPA) grant approved by Council in October 2024. This report provides a brief status update on the first two major deliverables: Deliverable 1 (Infrastructure Assessment) and Deliverable 2 (Port Demand, Capacity, and Circulation/Transportation Analysis). These documents establish the baseline conditions and technical analysis required for future phases of the Modernization Plan. A staff presentation at the meeting will summarize the findings.

RECOMMENDATION:

Accept the status update on Deliverable 1 (Attachment 1) and Deliverable 2 (Attachment 2) for the Port of Benicia Facilities and Infrastructure Modernization Plan.

BUDGET INFORMATION:

There is no fiscal impact associated with accepting this update. Work completed to date is fully funded through the previously awarded $750,000 Metropolitan Transportation Commission/Association of Bay Area Governments Priority Production Area grant. No additional appropriations or budget adjustments are requested.

BACKGROUND:

In October 2024, the City Council accepted a $750,000 PPA grant and approved a consultant agreement with GHD, Inc. to develop the Port of Benicia Facilities and Infrastructure Modernization Plan. The effort addresses aging pier infrastructure, long-term resiliency needs, circulation constraints, and future economic opportunities at the Port. A list of all tasks associated with this Modernization plan is included below:

- Task 1: Infrastructure Assessment
- Task 2: Port Demand, Capacity and Circulation /Transportation Analysis
- Task 3: Decarbonization and Resiliency Pathways

• Task 4: CIP and Yard Expansion Feasibility Analysis
• Task 5: Update and Modernize Industrial Design Guidelines
• Task 6: Environmental Review
• Task 7: Draft and Final Plan
• Task 8: Plan Activation and Funding Support
• Task 9: Ongoing Funding Support (optional)

Deliverable 1 provides an assessment of the existing pier, utilities, roads, rail access, and backland conditions. The assessment identifies structural limitations on the pier, significant settlement in backland areas, aging utilities, and transportation constraints. Deliverable 2 presents cargo demand forecasts, berth and landside capacity analysis, circulation and safety findings, and high-level offshore wind manufacturing potential. The analysis shows increasing long-term demand for ro-ro cargo, identifies roadway and grade-crossing constraints, and highlights future opportunities for modernization and resiliency investment.

These deliverables set the foundation for future phases, including decarbonization and resiliency pathways (Task 3), capital planning (Task 4), and development of the draft and final Port Modernization Plan.

NEXT STEPS:
GHD, Inc. is developing Task 3: Decarbonization and Resiliency Pathways, followed by Task 4: Capital Improvement Plan. Staff will return to Council as needed, including the adoption of the final Port of Benicia Facilities and Infrastructure Modernization Plan.

ALTERNATIVE ACTIONS:
None. This is an informational update only.

CEQA Analysis	Accepting a status update is not a project under CEQA Guidelines §15378 and does not require environmental review.

ATTACHMENTS:
1. Port of Benicia Deliverable 1 – Infrastructure Assessment
2. Port of Benicia Deliverable 2 – Port Demand, Capacity and Circulation/Transportation Analysis

For more information contact: Sarah Shawky, Deputy City Manager
Phone: (707) 746-4334
E-mail: SShawky@ci.benicia.ca.us

THE CITY OF BENICIA CALIFORNIA

Port of Benicia

Facilities and Infrastructure Modernization

Deliverable 1

Infrastructure Assessment

September 8, 2025



GHD

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Executive Summary

Introduction

The City of Benicia was awarded a $750,000 grant for the Port of Benicia Facilities and Infrastructure Modernization plan by the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG). The GHD team was hired by the City in November, 2024, to develop this plan. Task 1 of this plan entails completing a port infrastructure assessment, focusing on visual inspection and documentation of current conditions, based on available data and other information provided by the City, the port operator (AMPORTS) and third-party sources, as appropriate.

A list of all tasks associated with this Modernization plan is included below:

- Task 1: Infrastructure Assessment
- Task 2: Port Demand, Capacity and Circulation /Transportation Analysis
- Task 3: Decarbonization and Resiliency Pathways
- Task 4: CIP and Yard Expansion Feasibility Analysis
- Task 5: Update and Modernize Industrial Design Guidelines
- Task 6: Environmental Review
- Task 7: Draft and Final Plan
- Task 8: Plan Activation and Funding Support
- Task 9: Ongoing Funding Support (optional)

The findings from this infrastructure assessment will serve as an input to the Capital Improvement Plan (CIP) developed during Task 4 of the plan.

Asset Inventory

Given that most of the land comprising the port is owned by AMPORTS, and that AMPORTS currently serves as the port operator in Benicia, operations on port land are largely outside the purview of the City except as relates to allowed uses and other compliance matters driven by federal/state and local laws. This dynamic, along with the age and lack of historical documentation related to port assets has constrained the ability of the GHD team to collect some of the core asset data that would ordinarily be included in an infrastructure assessment due to lack of visibility into some of the assets owned and/or operated by AMPORTS.

In light of this dynamic, the focus of the asset inventory below and the infrastructure assessment that follows is largely limited to public infrastructure serving the port as well as private property that impacts or influences this public infrastructure. Such infrastructure includes, but is not limited to:

- The main pier structure serving the port
- The deep-water berths adjacent to the pier structure (dredged to -38 feet)
- Road and rail networks serving the port, including key intersections/grade crossings
- Above-ground and below-ground utility infrastructure serving the port, including both electrical and mechanical systems

Neither Valero's deep-water liquid bulk berth/operations nor any of the upland assets owned and managed by Valero in support of their Valero Benicia refinery operations are included in the scope of this Modernization plan due to the fact that they are privately owned, operated and maintained. Tidelands areas that are currently leased to AMPORTS, including those that are subleased to Valero by AMPORTS, are included. The levee currently protecting low-lying areas of the port will be assessed separately as part of Task 3 of this Modernization plan.

Stakeholder Engagement

Between March 25 and April 14, 2025, the GHD team interviewed more than a dozen key stakeholders using nine questions as a conversational prompt. These stakeholders represented a cross-section of elected, community and business leaders, including all five members of the City Council along with representatives of Valero, AMPORTS, Oak Road Development Group, Benicia Chamber of Commerce, Benicia Industrial Park Association, Solano County Economic Development Corporation and MTC/ABAG. Most meetings were conducted in person with several additional meetings being held virtually due to in-person scheduling conflicts. A high-level summary of major themes resulting from these meetings is presented below.

- Most stakeholders expressed general awareness that AMPORTS operates Port of Benicia and that they use the port and its surrounding properties to import and store cars.
- A few stakeholders had a more granular understanding of port operations, but all stakeholders indicated that they did not think most residents of Benicia have much awareness, knowledge or interest in the port.
- Effectively all stakeholders interviewed believe that the risk of industrial property being encroached upon – especially waterfront industrial property – is high and that, once waterfront property is repurposed for other non-industrial uses, it will be difficult if not impossible to return to industrial use. At least one stakeholder also conveyed the sentiment that even if there's not an immediate need for waterfront industrial property, it should be protected for the future.
- The port as an economic engine for the City has broad support among stakeholders interviewed for this Modernization plan and most stakeholders expressed that expansion of port operations would be positive since they believe it is an underutilized asset. It was stated that the larger the footprint, the more job opportunities there might be. (NOTE: this sense of underutilization was not based on a technical understanding of the port's actual capacity, but rather on its general disconnection from the City at large).
- One specific opportunity for future port expansion raised by several stakeholders was a potential nexus with the shipyard opportunity recently announced by the California Forever (also known as the East Solano Plan) development team. It was stated that this shipyard could be a once in a lifetime opportunity to reimagine the Port of Benicia's role in the regional economy and that its potential to support the East Solano Plan should be explored.
- Shore power was identified as a priority investment, with air quality in general being reiterated by multiple stakeholders as the top priority for investment, so long as flexibility in accommodating diversified future operations is also a key consideration. The existing STAX bonnet barge was acknowledged as a temporary solution, and the question was asked about the feasibility/cost-effectiveness of this technology long-term.
- Retrofits specific to offshore wind were explicitly mentioned as being a real opportunity for Benicia since it is almost certain to happen in California within the next decade, despite the current political climate. This could be more of a job-creator than current operations and might bring more economic vitality to the City/area.
- Structural improvements to the pier were also identified as a priority for investment since growth in cargo volumes is hard to imagine without such investment.
- Infrastructure enhancements – especially to surrounding roads – was described as being of high importance, with other ports (i.e. Port of Oakland) being cited as having far superior cargo-handling assets. Park Road was singled out. It was suggested to start by addressing existing deficiencies to restore the port to a state of good repair, including upgrades to roadways, mechanical utilities, electrical infrastructure and telecommunications

assets. It was also pointed out that, to grow the port it has to be seen as a logistics hub, not just a "last mile" connection to deep water.

- One common sentiment from stakeholders was that reimagining the port infrastructure in a way that maximizes its revenue capability, minimizes its environmental impacts and allows it to contribute to City services more directly would be a win-win for all stakeholders. It was noted that even if all such revenue must go into tidelands areas, that would still be better than the status quo, though contribution to the community more broadly would be preferred.
- Multiple stakeholders indicated that the team should avoid introducing mixed uses to the current port area as that could cloud the issues and distract from meaningful investment in heavy waterfront industrial improvements. Non-industrial solutions were generally perceived as counter-productive by all stakeholders interviewed.
- There was a general sentiment among stakeholders that a balance between potential community concerns and the needs of both AMPORTS and the City to generate greater revenue from port operations must be achieved to maximize buy-in while also allowing for positive growth. There was also a general sentiment among some stakeholders that AMPORTS needs to contribute more to public infrastructure at and around the port, not just its own assets as this would be the most fair and most sustainable future situation.

Current Infrastructure Assessment

Pier Structure

The pier structure serving the port was originally constructed in 1942. Portions of the pier have been rebuilt after fire damage (2001, 2022) but the shoreside access trestle and pier immediately adjacent to the access ramp have not been replaced and are at the end of their useful life. Built on a combination of timber and concrete piles, this structure has a length overall of approximately 2,400 feet and is divided into three berthing areas, known as Berth West, Berth Center and Berth East. See Figure 6 for reference.

The pier can accommodate two vessels simultaneously. Roll-on/roll-off (ro-ro) vessels berth in the Berth West and Berth Center area while petroleum coke vessels berth in the Berth Center and Berth East area. The port's STAX[1] unit, which is used to capture and sequester vessel emissions at berth using a California Air Resources Board (CARB) approved bonnet system lays up at the far southwest end of the pier when not in use, as do the tug boats used at the port.

The entire pier structure has experienced significant degradation over time and is at risk of frequent flooding by mid-century due both to long-term sea level rise (SLR) and future precipitation events that are projected to become increasingly more frequent and more intense due to the effects of climate change.

The newer concrete pile sections of the pier can support up to 500 pounds per square foot while the timber pile sections are limited to 250 pounds per square foot or less. Because the area immediately adjacent to the trestle connecting the pier to the *terra firma* backland areas of the port is timber-pile supported, it serves as the controlling load capacity for all operations at the Port of Benicia. This limits the type of cargo that can be handled at the port since "high and heavy" cargo, including tractors, military equipment, and many types of break-bulk and project cargo would exceed the structural capacity of the pier.

Levee

This port asset will be assessed separately as part of Task 3 (Port Electrification and Resiliency) of this Modernization plan.

Road Network

The port is connected to the U.S. interstate system via four primary surface streets. See Figure 2 for reference. Bayshore Road and Industrial Way provide direct access to AMPORTS' southwestern and northeastern properties, respectively.

[1] https://www.staxengineering.com/how-it-works/

Adams Street connecting Bayshore Road to Park Road within the lower arsenal area of the City and Park Road serving as a primary cross-city connector to the I-680 southbound/I-780 westbound on-ramp. The I-680 northbound on-ramp is accessed via Industrial Way. Likewise, the I-680 southbound off-ramp terminates at Industrial Way with the I-680 northbound off-ramp terminating at Bayshore Road. A detailed assessment of each of these roadways is included separately in the Task 2 deliverable for this project.

Rail Network

The Port of Benicia is served exclusively by Union Pacific, which provides active transcontinental "piggyback" services (i.e. loaded truck trailers moved via flat cars). The AMPORTS facility includes an on-dock rail yard that allows Union Pacific to offer direct service to rail cars, which is optimal for long-range import vehicle distribution and, potentially, domestically manufactured vehicle exports. Additionally, UP operates a dedicated short-haul rail service to transport petroleum coke from the Valero Benicia refinery to the coke silos at the port. See Figure 2 for reference.

Utilities

Mechanical utility information is not available for purposes of this infrastructure assessment due to the age and general lack of quality as-built documentation related to AMPORTS properties at the Port of Benicia. A detailed survey of the port in collaboration with AMPORTS will be necessary as part of any landside infrastructure modernization effort. At minimum, new stormwater infrastructure will be required at the low-lying port facilities located immediately southwest and northeast of the George Miller Jr. Memorial and Benicia-Martinez Railroad bridges.

Information provided by Pacific Gas and Electric (PG&E) indicates that there is overhead electrical service along Bayshore Road extending from Oak Road at its east end all the way to the 5th Street intersection at its west end. Along this route PG&E has a 12 kV overhead line. The existing PG&E 12 kV overhead electrical line includes existing power poles at the south side of Bayshore Road adjacent to Van Buren Street. The south end of this street connects to the wharf entrance. It is not clear whether PG&E's existing electrical facilities would be able to accommodate the amount of power needed for additional terminal electrification, including a minimum of two at-berth shore power systems. In a worst-case scenario, PG&E would be required to upgrade their electrical circuits to provide sufficient capacity to deliver the required shore power to the terminal entrance. See Figure 27 and Appendix A for reference.

PG&E records indicate that there are underground natural gas lines at the perimeter of the terminal. These gas lines are part of the city-wide network which provide gas to the area. See Figure 27 and Appendix B for reference. The existing gas line infrastructure serves to provide natural gas services to the existing buildings located on port property. Future upgrades may be required, but this will be determined at a later time, depending on the scale and type of new infrastructure ultimately proposed as part of Task 4 (CIP and Yard Expansion Feasibility Analysis) for of this Modernization plan.

SWOT Analysis

In order to assess the relative strengths and weaknesses of the Port of Benicia, as well as potential opportunities and threats, the GHD team completed a strengths, weaknesses, opportunities and threats (SWOT) analysis of the port. For purposes of this executive summary, strengths, weaknesses, opportunities and threats have been combined into a single list that cuts across multiple aspects.

Strengths

- One of only 11 deep-water ports in California[2]
- South/east of the George Miller Jr. Memorial and Benicia-Martinez Railroad bridges at intersection of the I-680 and I-780 freeways
- Access to San Francisco Bay and ocean routes via the Carquinez Strait
- Rail-served by one of two western US class 1 railroads (UP)

[2] https://californiaports.org/about-capa/

- Isolated from residents due to buffer provided by topography and other Benicia Priority Production Area industrial uses
- Age and private ownership of port backlands likely results in very low legacy operating costs
- Existing Valero Benicia refinery produces a built-in export cargo (petroleum coke)
- Ro-ro cargo infrastructure investment needs are relatively minimal compared to other cargo types

Weaknesses

- Very limited waterfront acreage
- Significant grade changes between waterfront and upland areas
- Extremely limited footprint expansion potential
- Private ownership of waterfront industrial property
- Generally uneven topography across all port properties, including severe grade changes between parcels
- Obsolete infrastructure (pier + landside assets), which serves as a constraint on cargo loads and limits types of cargo that can be handled
- Several areas of the port backlands are below sea level at certain times of the day due to uneven settlement patterns during the past 60+ years
- Generally poor road conditions around the port
- Potential for certain cargo types is limited by the location/size and condition of the port's existing infrastructure as well as Carquinez Bridge clearance (140 feet)
- The Port of Benicia is currently entirely dependent on just two products: imported automobiles and exported petroleum coke
- Several areas of the port backlands and pier structure require investment from both a state of good repair and a future resiliency perspective, which means significant future investment is likely required

Opportunities

- Designation within *AB 525*[3] (Offshore Wind Energy Strategic Plan) as potential offshore wind manufacturing and fabrication site
- Potential development of east Solano County shipyard as part of the California Forever project
- Upgrade existing pier infrastructure to accommodate a greater variety of cargo types
- Increase berth capacity by replacing the timber sections of the Berth West and Berth Center areas of the existing pier with concrete piles (note: since approximately two-thirds of the pier has already been replaced and modernized, the incremental cost to modernize the rest of the pier (including shoreside access) is lower than replacing an entire pier)
- Use some portion of the Bay Area Air Quality Management District (BAAQMD) settlement money to install shore power and/or leverage BAAQMD settlement money to secure other third-party funding (i.e. state/federal grants) to make necessary capital improvements to the existing pier structure, including shore power
- Increase the resiliency of the port by enacting measures that mitigate future SLR and other inundation risks
- Identify alternative uses and/or cargo types for the Port of Benicia that further diversify its revenue streams and makes it more resilient to economic uncertainties

[3] https://www.energy.ca.gov/data-reports/reports/ab-525-reports-offshore-renewable-energy

Threats

- Existing cargo (ro-ro) business can be accommodated at other facilities (i.e. Antioch)
- Other ports in the region may face fewer location-related constraints, or be better positioned to remove those constraints
- Private operator may prioritize investment in other port sites (i.e. Antioch) rather than Benicia
- The relative “value” of the Port of Benicia to AMPORTS overall business model vs. other locations (i.e. Antioch) is unknown to anyone other than AMPORTS
- Tariffs and other significant changes to existing supply chains that make Port of Benicia irrelevant
- Potential Valero Benicia refinery idling/restructuring/cessation of refining operations and associated loss of export cargo (i.e. petroleum coke)
- AMPORTS could choose to move its existing ro-ro operations to another location, subject to market conditions and the result of negotiations with the City related to their 2031 lease expiration

Introduction

Port of Benicia Overview

The Port of Benicia (port) is located in Solano County on the northern bank of the Carquinez Strait approximately 19 miles northeast of the Port of Oakland and 25 miles northeast of the Port of San Francisco. The California State Land Commission (CSLC) granted the tidelands adjacent to the port to the City of Benicia (City) in 1964. Figure 1 below shows the currently designated tidelands areas within the City of Benicia that are relevant to this Facilities and Infrastructure Modernization plan.

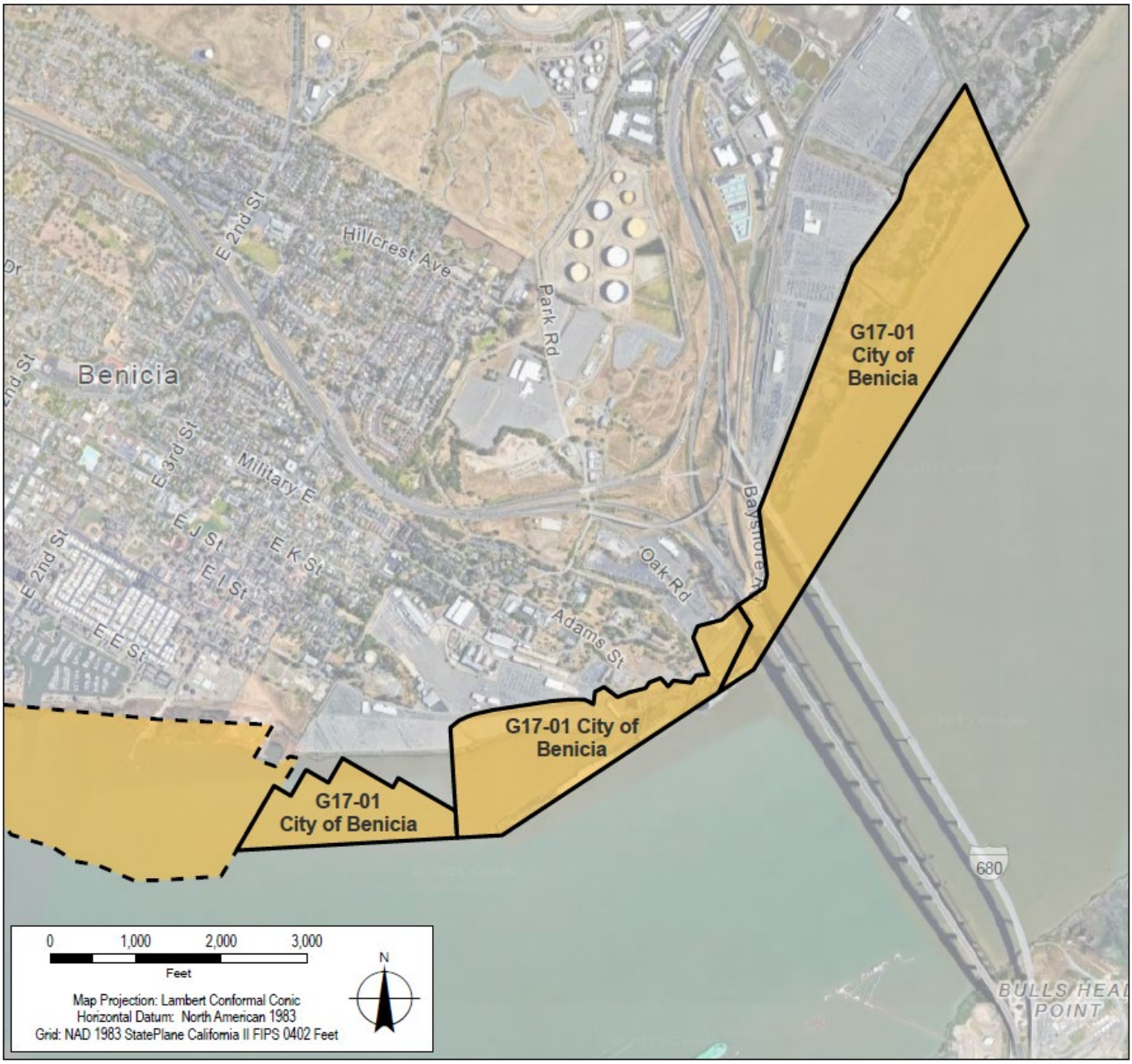


Figure 1: City of Benicia Port-Adjacent Tidelands Areas (source: California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/ NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS)

As a trustee of these lands the City cannot sell these lands or any infrastructure constructed on top of them, including the existing pier structure, which was originally built by the United States Army during the World War II era. The following is a verbatim description of allowed uses within the City of Benicia's tidelands area:

> *"The City of Benicia was granted certain waterfront lands within the city limits in trust in 1855. Additional sovereign tide and submerged lands were later granted to the City for the establishment, improvement, and conduct of a harbor, facilities incidental, necessary, or convenient for promoting and accommodating commerce and navigation, recreational facilities, and incidental facilities to accommodate these uses, including snack bars, cafes, restaurants, motels, launching ramps and hoists, storage sheds, boat repair facilities with cranes and marine ways, administration buildings, public restrooms, bait and tackle shops, chandleries, boat sales establishments, service stations and fuel docks, yacht club buildings, parking areas, roadways, pedestrian ways, and landscaped areas."*[4]

In 2019, the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) designated the Benicia Priority Production Area (PPA) via Resolution No. 02-2020, thereby incorporating it into the Bay Area 2050 Growth Geographies. The Benicia PPA is the largest industrial park in Solano County.

The land adjacent to the tidelands area of the port is privately owned and operated as a marine terminal by AMPORTS, doing business as The Benicia Port Terminal Company. With multiple locations in the United States and Mexico, AMPORTS is one of the largest auto processors in North America. The port specializes in roll-on/roll-off (ro-ro) cargo, particularly automobiles. The port also features a petroleum coke export terminal. Valero operates a separate dedicated liquid bulk terminal within the tidelands area of the port which is used exclusively for crude oil imports and refined petroleum product exports.

Landside access to the port is provided directly via Bayshore Road, Adams Road and Industrial Way, and indirectly via Park Road, all of which connect to the I-680 and/or I-780 freeways within two miles or less of the port's gates. Union Pacific Railroad (UP) also provides on-dock rail service to the port and can accommodate up to 170 multilevel railcars simultaneously.

Waterside access to the port is provided via a single 2,400 linear-foot pier structure that is 90 feet wide. This pier has linear capacity to berth up to three vessels simultaneously, but is structurally limited to two functional berths. In addition, its width of 90 feet and the geometry of the intersection between the pier and the 200-foot long, 70-foot wide trestle (aka Van Buren Street) that serves as the sole connecting causeway between the pier and *terra firma* presents challenges for existing cargo operations due to turning radius and other constraints. The controlling water depth at this pier and within the navigable area of the Carquinez Strait is -38 feet mean lower low water (MLLW). Valero's 1,200 linear-foot liquid bulk pier structure is located immediately to the northeast of the main pier structure.

The current City of Benicia zoning designation at the port is "Port" and "Port/water related industry" and is reserved for regional maritime/port use, including:

- Cargo handling and marine services
- Cargo storage
- Ship repairing
- Supporting transportation uses (i.e. trucking and rail yards)
- Logistics (i.e. freight forwarding and government activities related to port activity)

Figures 2 and 3 below illustrate the port's landside access routes and land use designations, respectively.

[4] https://www.slc.ca.gov/granted-public-trust-lands/grantees/benicia/

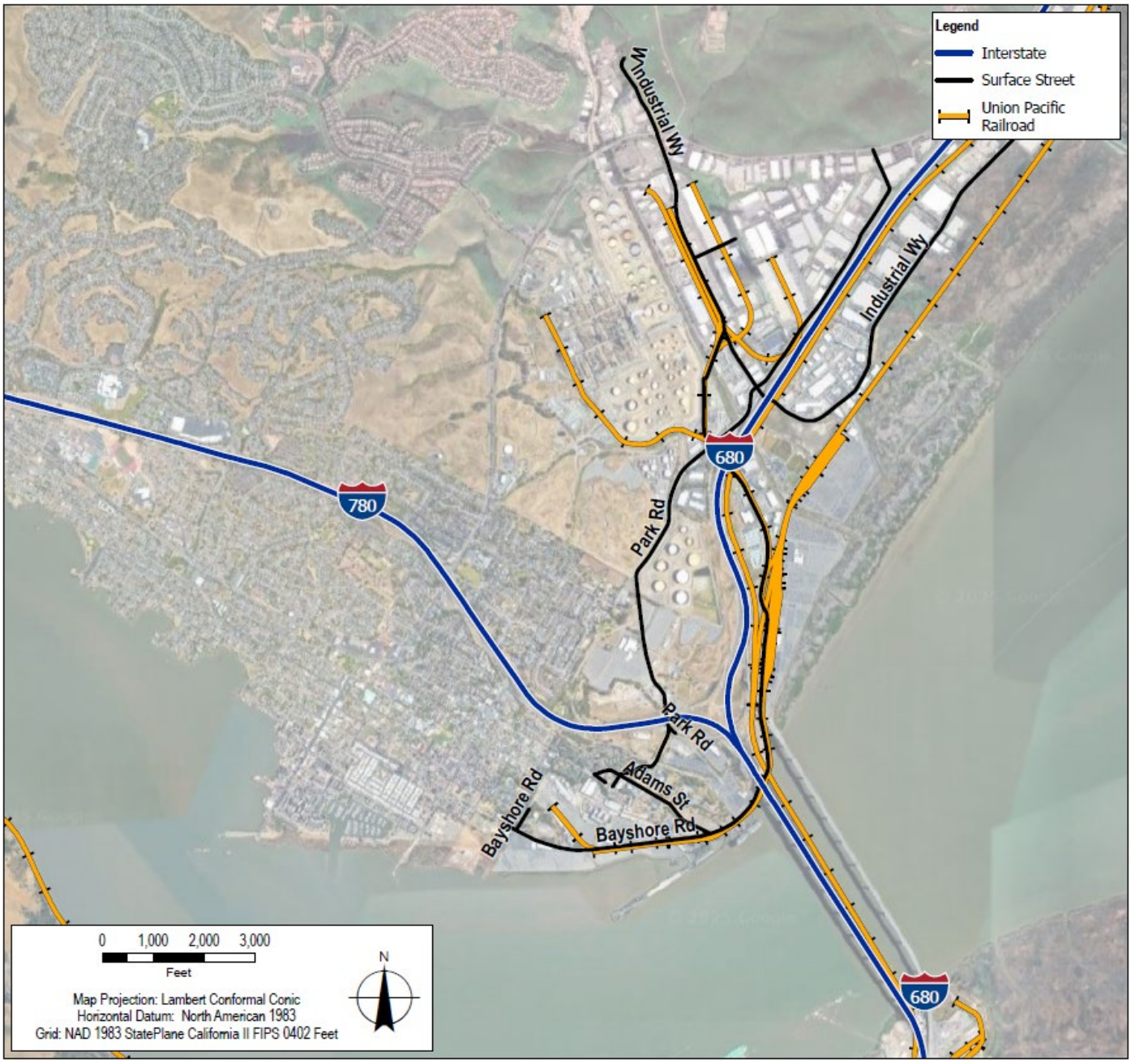


Figure 2: Port of Benicia Landside Access Routes (source: tiled service layer: © OpenStreetMap (and) contributors, CC-BY-SA created by: ethompson3)

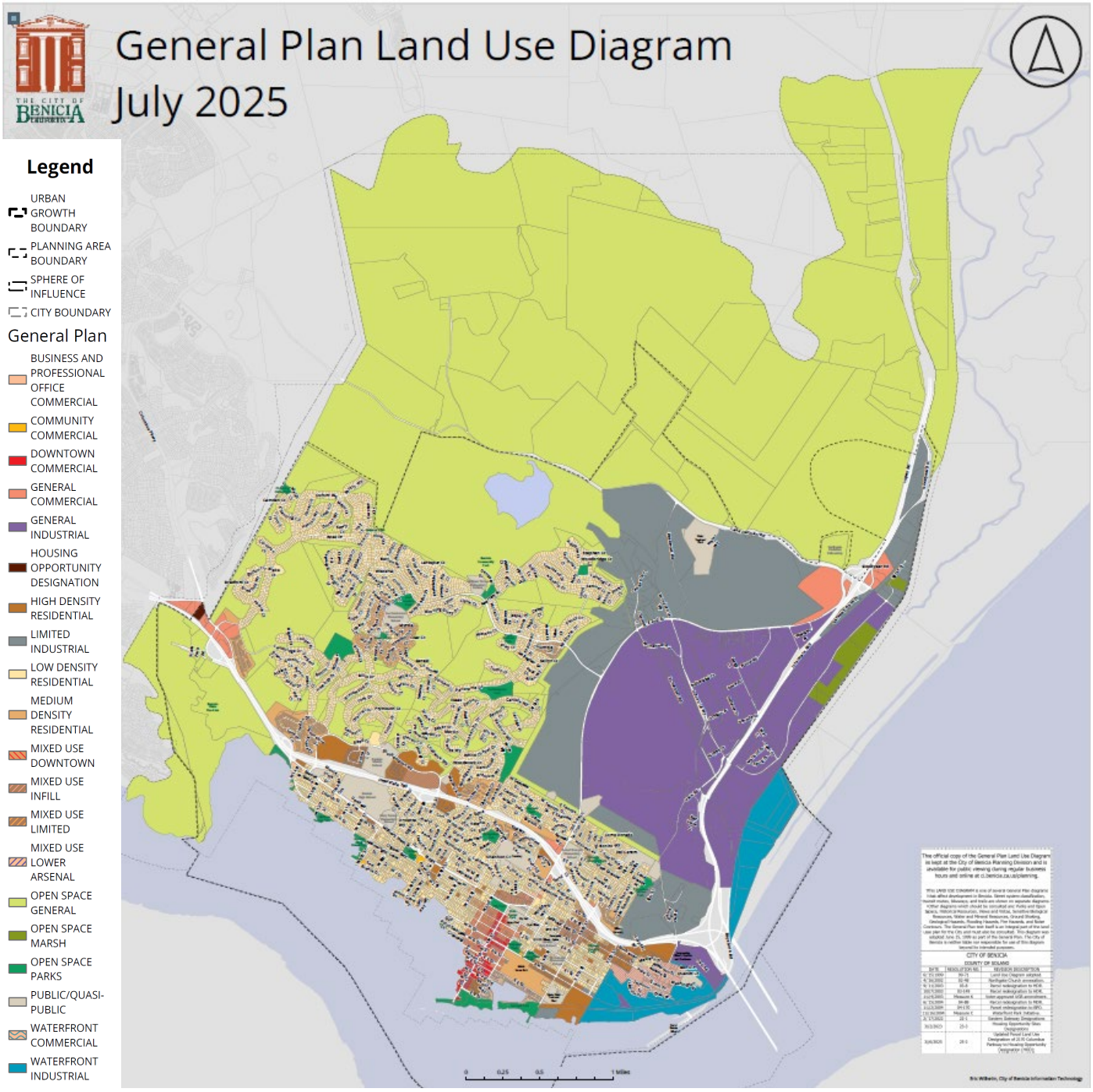


Figure 3: City of Benicia Land Use (source: https://www.ci.benicia.ca.us/planning; GHD)

Purpose and Context

AMPORTS' 66-year lease of the existing three-berth pier at the port, and of certain portions of the adjacent backland area (see Figure 5) will expire in 2031, at which time operational control of these assets will revert to the City. This change in operational control of the port's only waterside access point presents both the City and AMPORTS with an opportunity to reimagine the long-term future of this significant regional waterfront asset. The GHD team was hired by the City in November, 2024, to develop a comprehensive Facilities and Infrastructure Modernization plan for the port.

Task 1 of this plan is to complete a port infrastructure assessment, focusing on visual inspection and documentation of current conditions, based on available data and other information provided by the City, AMPORTS and/or third-party sources, as appropriate. The findings from this infrastructure assessment will serve as an input to the Capital Improvement Plan (CIP) developed during Task 4 of the plan.

A list of all tasks associated with this Modernization plan is included below:

- Task 1: Infrastructure Assessment
- Task 2: Port Demand, Capacity and Circulation /Transportation Analysis
- Task 3: Decarbonization and Resiliency Pathways
- Task 4: CIP and Yard Expansion Feasibility Analysis
- Task 5: Update and Modernize Industrial Design Guidelines
- Task 6: Environmental Review
- Task 7: Draft and Final Plan
- Task 8: Plan Activation and Funding Support
- Task 9: Ongoing Funding Support (optional)

Using insights from this current infrastructure assessment along with data and stakeholder input collected in parallel, the GHD team has prepared the following summary of existing conditions cutting across port assets to serve as a baseline for the remaining phases of the Facilities and Infrastructure Modernization plan.

Asset Inventory

Port Users

The port is located within the 4,000-acre Benicia Industrial Park (BIP), which itself is located within the 4,645-acre Benicia PPA. The port consists of 282 gross acres of land (225 net acres), which includes 132 acres for static storage, 121 acres of which are dedicated to ro-ro operations. The AMPORTS website also identifies a total of 356,000 square feet of "fully equipped" vehicle processing buildings. The port handles only two types of cargo: imported automobiles and exported petroleum coke (coke). All coke handled at the Port of Benicia is produced at the adjacent Valero Benicia refinery and delivered to the port via rail car, where it is then siloed and loaded onto bulk vessels for export to Asia. All vehicles handled at the Port of Benicia are imported from Asia, Mexico and Europe. The Port's primary ro-ro customers include:

Ocean Carriers

- Glovis
- K-Line
- NYK
- MOL
- ToyoFuji
- Great America Lines

Original Equipment Manufacturers (OEMs)

- VW
- Audi
- Porsche
- Bentley
- Mazda
- Toyota
- GM
- VinFast

Physical Assets

Figures 4, 5 and 6 below show Port of Benicia topographical conditions and assets as identified by AMPORTS leadership. Detailed information for each asset beyond that presented here has not been made available to GHD or the City. The overall surface condition of the port backlands areas is good in terms of paving, etc. However, both the age and the underlying geology of the waterfront sites in Benicia has resulted in several issues and potential future concerns.

First, the port is located on low-lying waterfront property, and many areas of this property have experienced significant differential settlement. Most of the *terra firma* backland areas of the port consist of asphalt over marshland and the GHD team observed settlement of up to five feet in some areas of the port, which has resulted over time in highly uneven surfaces throughout the paved waterfront areas. Several areas of the port backlands lie below sea level during higher tide periods; in fact, the entire Port of Benicia complex sits behind a constructed levee system that is necessary to prevent tidal flooding. More information related to the levee and potential future inundation risks will be presented in the Task 3 (Port Electrification and Resiliency) deliverable.

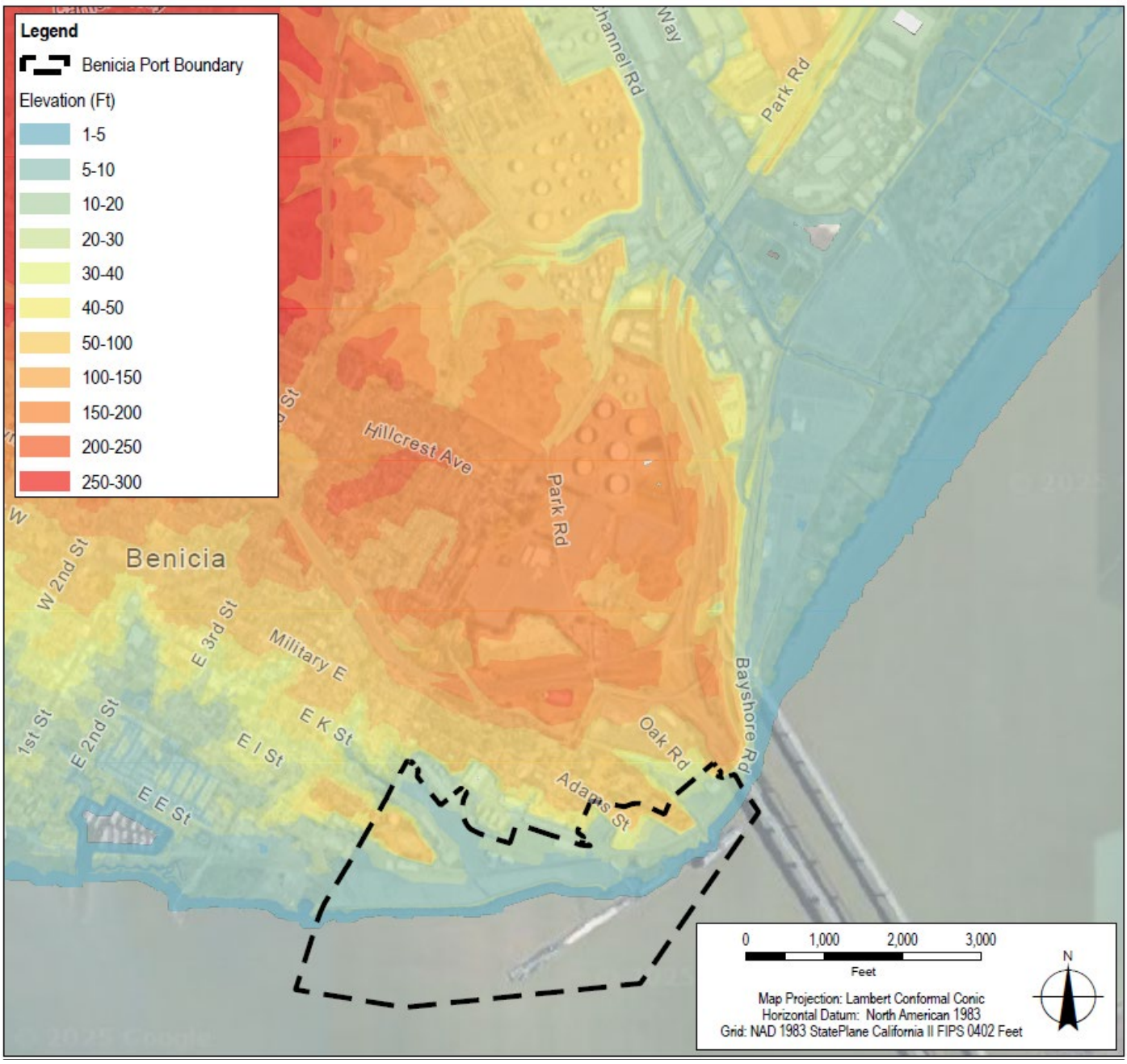


Figure 4: City of Benicia Topography (source: California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS)

Second, the port has been utilizing the same site civil infrastructure for over 60 years in some cases, meaning there is generally very poor documentation of mechanical utility infrastructure across the different areas of the port. Original as-built drawings, for example, are largely unavailable and none of the underground mechanical systems have been geolocated using GIS.

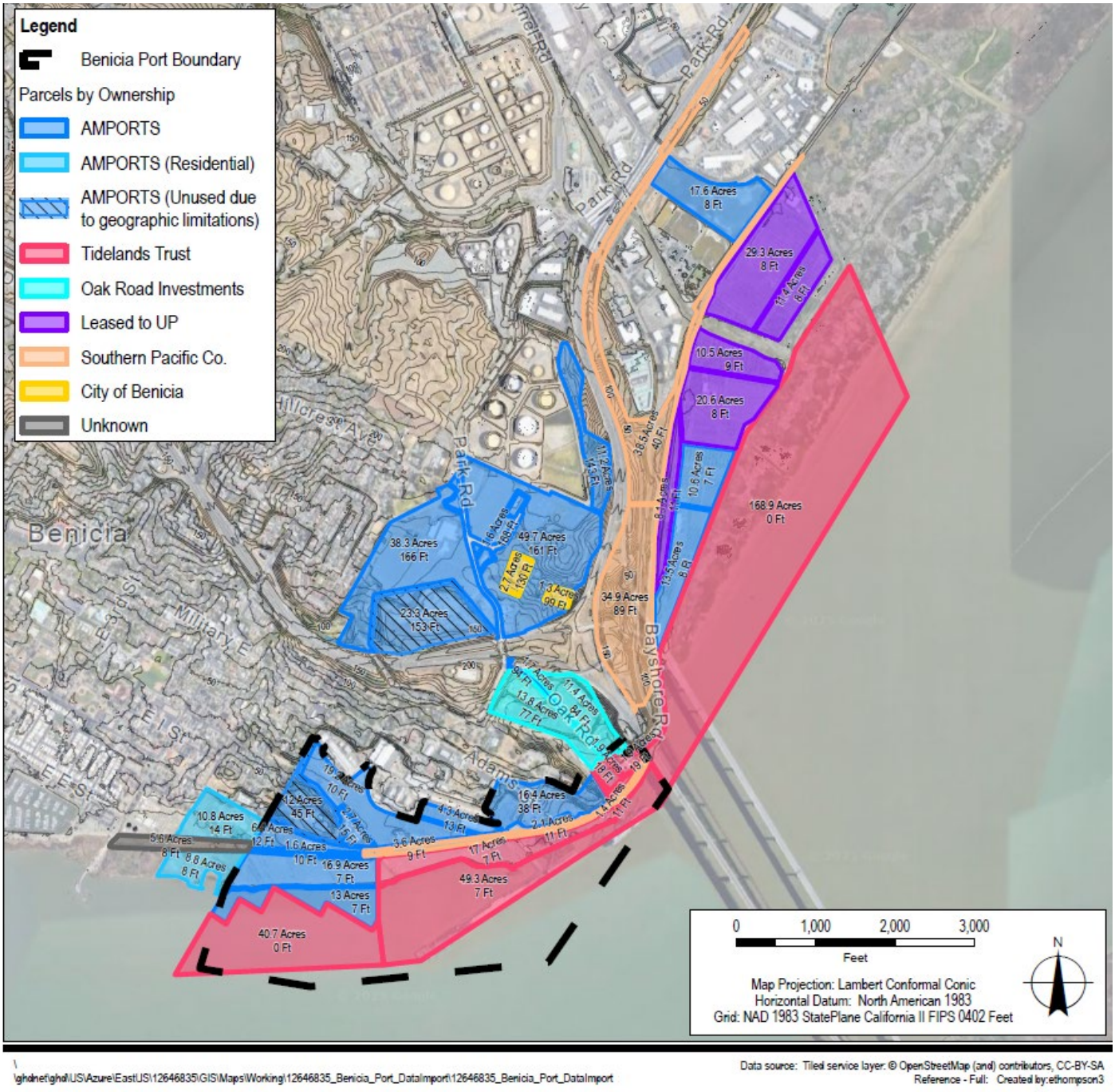


Figure 5: Port of Benicia Areas and Acreages (source: California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS)

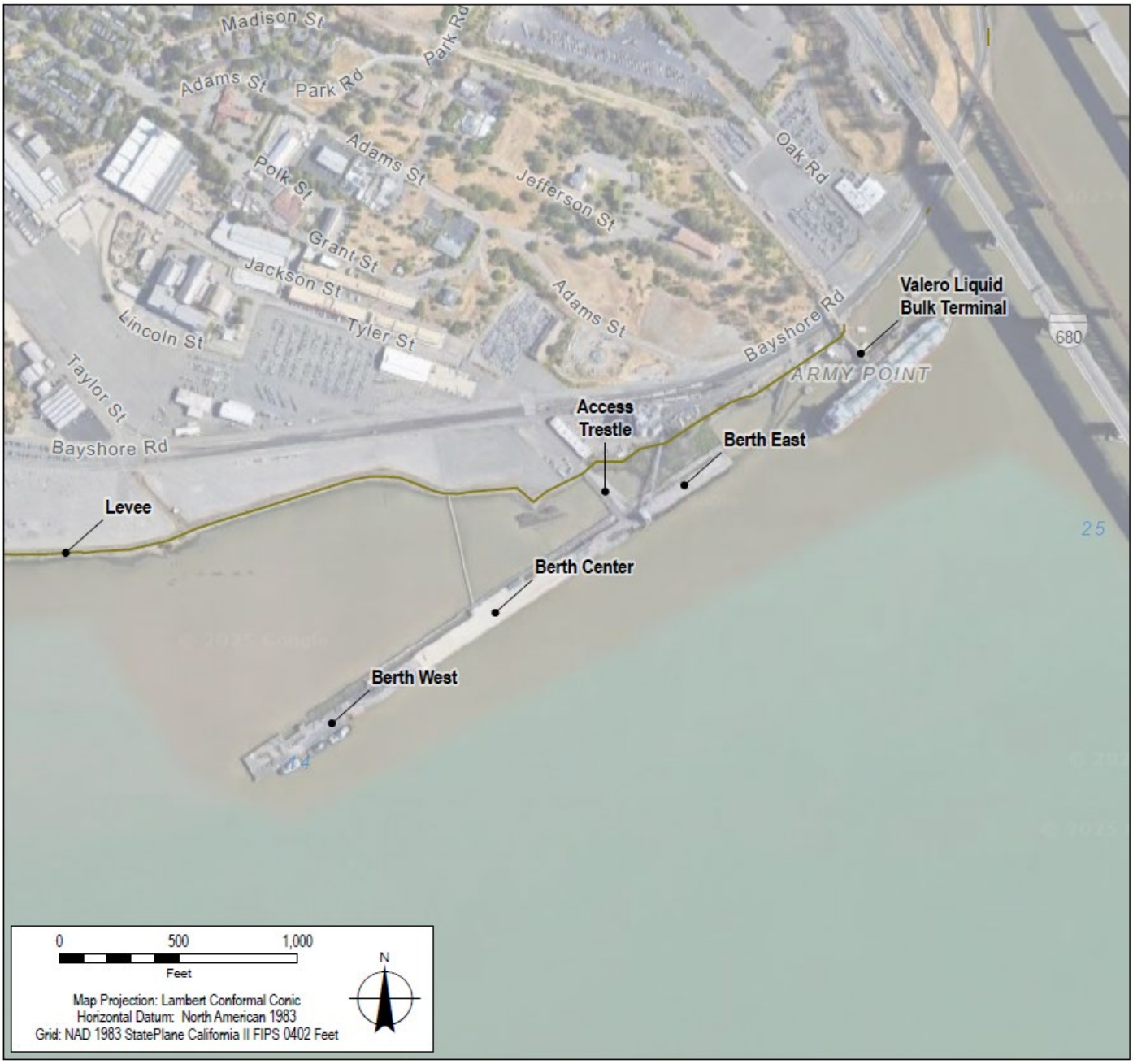


Figure 6: Port of Benicia Waterfront Assets (source: tiled service layer: © OpenStreetMap (and) contributors, CC-BY-SA Reference - Full: Esri Community Maps Contributors, California State Parks, © OpenStreetMap, Microsoft, Esri, TomTom)

Given that most of the land comprising the port is owned by AMPORTS, and that AMPORTS currently serves as the port operator in Benicia, operations on port land are largely outside the purview of the City except as relates to allowed uses and other compliance matters driven by federal/state and local laws. This dynamic, along with the age and lack of historical documentation related to port assets has constrained the ability of the GHD team to collect some of the core asset data that would ordinarily be included in an infrastructure assessment due to lack of visibility into some of the assets owned and/or operated by AMPORTS.

The baseline asset inventory for this plan will therefore necessarily be incomplete. In light of this dynamic, the focus of the asset inventory below and the infrastructure assessment that follows is largely limited to public infrastructure serving the port as well as private property that impacts or influences this public infrastructure. Such infrastructure includes, but is not limited to:

- The main pier structure serving the port
- The deep-water berths adjacent to the pier structure (dredged to -38 feet)
- Road and rail networks serving the port, including key intersections/grade crossings
- Above-ground and below-ground utility infrastructure serving the port, including electrical, gas and mechanical systems

Neither Valero's deep-water liquid bulk berth/operations nor any of the upland assets owned and managed by Valero in support of their Valero Benicia refinery operations are included in the scope of this Modernization plan due to the fact that they are privately owned, operated and maintained. Tidelands areas that are currently leased to AMPORTS, including those that are subleased to Valero by AMPORTS, are included. The levee currently protecting low-lying areas of the port will be assessed separately as part of Task 3 of this Modernization plan.

Stakeholder Engagement

Context

A core component of this Facilities and Infrastructure Modernization plan is stakeholder outreach. GHD team member Circlepoint put together the following comprehensive community engagement plan accordingly. Key points of context include the following:

- MTC/ABAG has provided grant funding to the City of Benicia for the Port Modernization project, and Benicia was the only port in the region to receive such funding. This is part of an initiative to increase the value of the Port of Benicia as a regional asset that supports middle-wage employment and manufacturing areas.
- The City of Benicia is leading a modernization plan for the Port of Benicia that will address resiliency and environmental concerns, create local jobs and bring the port into the modern era as a regional hub.
- As it stands, the low-lying areas of the City, including the port, will be impacted by sea level rise between now and the end of the century. The City is leading this modernization plan in order to have a continually thriving port.
- The port is operated by AMPORTS under long-term lease with the City of Benicia. The Valero coke operation is operated under sublease to AMPORTS. The port sits adjacent to a refinery and a hydrocracker (located on land owned by Valero) which serves as the supplier of the petroleum coke exports.
- While the port is operated by AMPORTS, and AMPORTS owns much of the waterfront property that constitutes the backland area of the port, the pier itself – which provides the only industrial waterside access to the City – along with certain areas of the port's backland that are within the tidelands will revert to the City in 2031.
- Specific elements of the modernization include inter-port emission reduction strategies, safety updates, shore power and emissions reduction, a look into the feasibility of a yard expansion and climate change resiliency upgrades that will protect port infrastructure from higher future sea levels.
- Final delivery of the Facilities and Infrastructure Modernization Plan is anticipated in April 2026.

Goals and Objectives

- Forge a consistent, coherent storyline throughout project development, highlighting both the importance of modernization from a resiliency standpoint in the face of sea level rise as well as the port's continued role in the community as a creator of jobs as it transforms into a regionally important logistics hub.
- Educate stakeholders on the advantages of modernization and the opportunity to address current economic and environmental concerns through meaningful investment that helps to spur additional commerce in and around the City of Benicia for the next several decades and beyond.
- Collect meaningful, actionable feedback from stakeholders on preferences surrounding capital prioritizations. Surface transportation, decarbonization scenarios and other concerns will create capital projects, and stakeholders can weigh in on priority points versus other approaches to distribution. This will chiefly be in the form of reacting to design scenarios, as opposed to determining whether or not to undertake certain activities.
- Engage the port community, including port operators, employees, external public agencies, City of Benicia leadership and industry representatives to gather input on the development of the modernization project.
- Inform stakeholders about the objectives and anticipated benefits of the modernization project, provide a clear timeline for its development, and ensure transparency in decision-making processes.
- Plan and execute public engagement and outreach activities at key intervals of the project development to ensure input is incorporated throughout the process.

Key Communication Challenges and Opportunities

Challenges

- The port's sublessee, Valero, has been challenged on its environmental practices. Valero recently reached an $82 million settlement with BAAQMD[5] and has even more recently settled a lawsuit surrounding the production of coke raised by the nonprofit San Francisco Bay Keeper for an additional $3.3 million.[6] Some members of the community are displeased with Valero for undisclosed air quality risks that resulted in these settlements. The company has installed air quality monitors in the area but will face even greater scrutiny in the future as additional housing development (i.e. the Yuba property) encroaches further into former industrial areas that are port-adjacent.
    - These environmental concerns will be woven subtley into messaging for the Modernization plan to acknowledge potential concerns. Potential efforts around the electrification of the port will also be a key piece of the communications puzzle and will be vital for targeted messaging getting ahead of these environmental concerns and bolstering support for the plan.
- Potential development or change in port operations along the shoreline could result in pushback from the community – including sensitivities around perceived traffic, air, noise and light pollution, dust and land use impacts. It is necessary to gauge these concerns and perceptions early on and offer a holistic narrative that further defines and addresses potential community concerns while conveying the importance and tangible benefits of modernization.
    - Given the Benicia community's concern surrounding jobs and job creation, there may be a willingness to accept shoreline development if it can promise to maintain and create local, enduring jobs.

Opportunities

- Refineries in the area have seen notably high turnover, but Valero has been active in this area since the 1980s. From a public perspective, Valero is a large local employer and its refinery at the port – once the Humble Oil Refinery – is believed by many in the public to have pulled the community out of economic tailspin. The recent announcement that the Valero Benicia refinery will be idled/restructured and/or cease refining operations by the end of April 2026 has cast a cloud of doubt over the future economic outlook for the City. While this reality has to be acknowledged, the City also has an opportunity to partner with Valero and/or its successor entity to identify and implement alternative uses for the site. This subject will be explored in depth as part of Task 2 of this Modernization plan. While the future of the site remains very uncertain, stakeholder messaging will continue to focus on the potential to repurpose the Valero Benicia facility for productive re-use, including potential industrial uses.
    - Jobs will be a key factor in conveying the potential impact of the port's modernization, and Valero's potential cessation of refining operations will be framed as a conversion opportunity that can accelerate the port's modernization, similarly to how other former refineries have been converted to alternative uses (i.e. Martinez).
- California State University, Maritime Academy (Cal Maritime), located near the port, is a prestigious maritime university. The campus holds the highest job placement rates out of the entire CSU system and is the only degree-granting maritime university in on the west coast of the United States.
    - The school would make for an ideal project partner, either as a strategic partner offering insight or as true boots-on-the-ground helping the project team with facilitation and/or project execution. If the latter approach is taken, it would present a strong opportunity to lean into messaging surrounding the City's commitment to shoring up the port to adapt to future economic and environmental realities. Bringing in members of the next generation could help guide the Modernization plan.

[5] https://www.baaqmd.gov/en/news-and-events/page-resources/2024-news/103124-penalty-valero
[6] https://baykeeper.org/news-bk/valero-oil-shipper-amports-to-pay-3-3-million-after-unusual-s-f-bay-pollution-case-settles/

Overall Engagement Approach

- Leverage existing engagement tools and forums to reach people where they are and inform them about the project (including benefits and opportunities for participation).
- Work with the City of Benicia project team, led by the City Manager's office to provide recommendations and communicate overall stakeholder engagement recommendations with the City of Benicia.
- Engagement will take a milestone-centric approach, communicating primarily through email and other electronic media to convey progress and promote transparency. These communications will be carried out through communication toolkits at key project junctures for project partners to use through their own existing networks.
- Following the notifications provided through the communications toolkit, a blend of in-person engagement opportunities including focus groups, will be facilitated at a steady cadence aligning with key project milestones.
- Stakeholders will be engaged early on to see what their "wish lists" for modernization at the port entail – do they want to see warehouses, more car importing, etc.? Through gathering these concerns and opportunities, the project team can plant seeds for the critical land use aspect early on and build a strong foundation for public support of the modernization and sustained long-term industrial use.
- Stakeholder engagement will be broken into two main phases: Vision and Projects.
    - The vision phase will be focused on laying out scope and schedule, introducing the project and – critically – ascertaining views view of the port, including the main perceived challenges/opportunities and what is perceived as the future of the port.
    - The projects phase will follow the technical and feasibility analyses and consist of conveying to stakeholders that they have been heard, and explaining how previous input has helped to inform the range of proposed concepts (potential greening and use options) under consideration, what the potential benefits, impacts and trade-offs are, and giving them a chance to react to specific projects. This will follow roughly 60-90 days after the conclusion of the first phase.
- Key stakeholders will be brought into the fold through workshops, meetings and focus groups to have their voices heard and feel represented in the project. This will work to build a sense of civic pride in the port's modernization, both resulting in valuable feedback and creating community champions for the project.

Communications Channels and Forums

Stakeholder Meetings

- To set the foundation for stakeholder outreach, a series of one-on-one and group listening sessions will be held with key stakeholders among the public, including local businesses, community groups, agencies and port tenants. The key findings of these meetings will be collected in a combined summary that will inform the public outreach activities that follow.

Focus Groups

- Engaged residents, or representatives thereof, identified during preliminary outreach will be welcomed to participate in up to three focus groups throughout the project, offering feedback on the Modernization plan. Input from these groups (or individuals) will help refine messaging as the project continues.

Pop-up Events (Optional)

- Up to two pop-up events can be held to reach the community where they are and provide them a casual, direct opportunity to interface with the project team, learn about the Port of Benicia modernization, ask questions and provide feedback. Events hosted by Benicia Main Street will provide an excellent opportunity to engage with the public at large, though the port itself could also serve as a pop-up if input specifically from port tenants is a top priority.

Communications Toolkit

- A pre-agreed and project-team-vetted communications toolkit will be developed during each major phase of the Modernization plan's development, providing the latest information to stakeholders. These toolkits will be distributed to the project team and community partners for distribution through their existing networks, as appropriate.
- Cal Maritime, specifically can be engaged through a potential "Citizen's Guide to Port Planning," which could be done in collaboration between the project team, faculty and students. This could take the form of a graphical and/or video presentation that would provide easily digestible content conveying this process to the public.

Public Meetings

- Up to three public meetings will be held to provide major updates to the wider Benicia community on the Modernization plan's progress. Of the three planned meetings, one will be held before the Benicia Planning Commission, while the other two will be held before the Benicia City Council.

Meeting Materials

- Meeting agendas, name tags, refreshments, comment cards, and visual presentations such as storyboards, graphics and PowerPoint presentations will be provided for the stakeholder meetings, focus groups, pop-up events and public hearings. Furthermore, questions and interactive activities provided to meeting attendees may be available after the meeting via documentation to be made available after the fact to facilitate online, asynchronous participation during the development of the modernization plan. A written meeting summary will be developed and shared with the project team after each hearing or focus group to provide the team with an overview of the feedback and input received; stakeholder meetings will all be grouped together in one combined summary of key findings.

Outreach Graphics, Maps and Posters

- Supplemental graphs, maps and posters may be developed to assist with outreach and engagement efforts throughout the development of the modernization plan. These assets can help further engage and educate the public on the modernization and will help the community visualize key project information.

Target Audiences (Preliminary Stakeholder Categories)

Project Partners

- Metropolitan Transportation Commission (MTC)/ Association of Bay Area Governments (ABAG)

City Leadership

- City Council
- Planning Commission
- Economic Development Board

Port Tenants and Users

- AMPORTS
- Valero
- Benicia Industrial Park Association
- UP

Community Groups

- CSU Maritime

- Benicia Chamber of Commerce
- Benicia Industrial Park Association

Regulatory

- Bay Area Air Quality Management District (BAAQMD)
- Bay Conservation & Development Commission (BCDC)
- U.S. Coast Guard

Non-Governmental Organizations

- San Francisco Bay Keeper

Other Potential Stakeholders

- Residents of the Arsenal neighborhood
- United States Air Force
- Solano County Economic Development Corporation
- Solano Transportation Authority
- Adjacent property owners, tenants, residents and businesses

Messaging

Boilerplate messaging will provide consistency across communication channels about the project, including resulting impacts and benefits. This language will appear on informational materials and will be used at stakeholder meetings. Messaging may also be tailored to resonate with the specific audiences identified above.

Boilerplate

> *"The City of Benicia is investing in a plan to modernize the Port of Benicia to address concerns around asset conditions and climate change adaptation (including sea level rise) as well identify additional potential activity types that have potential to increase the benefits of the port that accrue to the City. This forward-looking Modernization plan also includes taking action to reduce greenhouse gas emissions and set the course for the port's future as a provider of local jobs and as an important regional logistics hub that will see commerce flow through the City of Benica into the next century. The City welcomes your feedback as this Modernization plan is shaped, so the port can best serve the interests of Benicia businesses and residents."*

Key Performance Indicators

To measure the performance of stakeholder engagements throughout the development of the modernization plan, key performance indicators (KPIs) will include:

- Number of stakeholder touchpoints during the development of the modernization plan
- Number of participants at public hearings, pop-up events (if held) and focus groups
- Number and nature of comments received (i.e., if stakeholder comments reflect an understanding of the modernization and how they feel about it)
- Quality of constructive feedback gathered during focus groups

Initial Stakeholder Feedback

Between March 25 and April 14, 2025, the GHD team interviewed more than a dozen key stakeholders using nine questions as a conversational prompt. These stakeholders represented a cross-section of elected, community and business leaders, including all five members of the City Council along with representatives of Valero, AMPORTS, Oak Road Development Group, Benicia Chamber of Commerce, Benicia Industrial Park Association, Solano County Economic Development Corporation and MTC/ABAG. Most meetings were conducted in person with several additional meetings being held virtually due to in-person scheduling conflicts. A detailed summary of feedback from these meetings is presented below.

Question 1: How familiar are you with the Port of Benicia and its current operations?

- Most stakeholders expressed general awareness that AMPORTS operates Port of Benicia and that they use the port and its surrounding properties to import and store cars.
- A few stakeholders had a more granular understanding of port operations, but all stakeholders indicated that they did not think most residents of Benicia have much awareness, knowledge or interest in the port.
- While many residents may have little or no working knowledge of the port, some stakeholders indicated that there is a subset of the population that is very active and informed about the port.

Question 2: Do local port operations impact you on a regular basis? If so, in what way(s)?

- The industrial aspect of Benicia's waterfront was acknowledged and generally accepted as part of Benicia's history and culture, but the details of existing port operations are largely out of site and out of mind.
- Most stakeholders agreed that movement of vehicles out of the port mainly happens away from residential areas, meaning the impact to them and their neighbors/constituents is minimal.
- One stakeholder indicated that vehicles moving up and down Oak Road do impact them because of the concentrated nature of these movements (i.e. 6-10 vehicles moving in a caravan over the course of multiple hours).
- The most common sentiment expressed by stakeholders was that you would have to physically go out to the port and/or areas serving the port to be impacted by its operations. Similarly, multiple stakeholders conveyed that they believe most residents wouldn't be able to tell you exactly where the port is and that relatively few have a reason to go there.
- One stakeholder indicated that a key difference between Benicia and Martinez (where many residents are familiar with the industrial area) is that the Port of Benicia and surrounding Benicia Industrial Park is relatively isolated from the rest of the community due to site geography and current zoning. Along these same lines, it was stated that even people who live near Jefferson ridge don't have strong opinions about the port, though they may wonder what else he City might be able to do with that waterfront property.
- Multiple stakeholders indicated that there is a general awareness within the community about AMPORTS, and a high level of awareness about Valero, but not really about the port proper. Comparatively, Benicia residents have high awareness of the marina and likely think of that as the Benicia waterfront vs. the port.

Question 3: What is your perspective on the potential for expanding port capacity or increasing waterfront industrial activity? Does this perspective depend on the type(s) of use and/or level of economic impact and employment opportunities generated by expansion?

- It was expressed that the City has been pretty hands-off with the port for the past several decades due to the AMPORTS lease situation, so it is welcome that this project is happening. It was similarly expressed that the ideal industrial strategy for Benicia is to both protect the existing industrial lands and work to maximize growth on these lands.

- Effectively all stakeholders interviewed believe that the risk of industrial property being encroached upon – especially waterfront industrial property – is high and that, once waterfront property is repurposed for other non-industrial uses, it will be difficult if not impossible to return to industrial use. At least one stakeholder also conveyed the sentiment that even if there's not an immediate need for waterfront industrial property, it should be protected for the future.
- Pittsburg and Antioch were both cited as examples in the area where there is a "push" (by developers, elected officials and/or residents) for existing industrial waterfront property to be repurposed as waterfront entertainment space. Benicia stakeholders interviewed unanimously agreed that entertainment (or housing) is not an appropriate use of existing port property, and that any future uses should be industrial in nature and/or have a maritime connection.
- The port as an economic engine for the City has broad support among stakeholders interviewed for this Modernization plan and most stakeholders expressed that expansion of port operations would be positive since they believe it is an underutilized asset. It was stated that the larger the footprint, the more job opportunities there might be. (NOTE: this sense of underutilization was not based on a technical understanding of the port's actual capacity, but rather on its general disconnection from the City at large).
- At least one City Council member expressed that port expansion would be preferable to residential or commercial encroachment (i.e. the local art community) because the presence of industry means consistent, reliable employment opportunities/income. The concern expressed was that, if industrial activity leaves Benicia, the City of Benicia, its residents and its business community will be challenged in terms of employment and tax revenues.
- One specific opportunity for future port expansion raised by several stakeholders was a potential nexus with the shipyard opportunity recently announced by the California Forever (also known as the East Solano Plan) development team. It was stated that this shipyard could be a once in a lifetime opportunity to reimagine the Port of Benicia's role in the regional economy and that its potential to support the East Solano Plan should be explored.
- One concern raised was that there are 550 businesses in the Benicia Industrial Park and not a lot of available land to accommodate port expansion.
- Another concern raised related to port expansion was accessibility/safety. Specifically, narrow, windy roads make port access challenging and there are multiple "rock islands" that, along with significant elevation changes, prevent efficient consolidation of parcels and limit access.
- Multiple stakeholders expressed that it would be great for the City if the port were able to grow. One stakeholder expressed that both water-dependent uses and other industrial uses that are not water-dependent should be evaluated. This sentiment was not widely shared by other stakeholders, however, with most believing the value of the port lies largely in its adjacency to a deep-water shipping channel.
- Multiple stakeholders indicated being in favor of activity, including expansion, that's going to drive incremental revenue to the City. One stakeholder stated that the City is blessed in many ways, but the port is certainly one of its bigger advantages. Investment in the port will facilitate this.

4. What improvements or upgrades do you think are necessary to ensure the port's future resiliency? If you had to prioritize three areas of focus for port modernization, what would they be? Why do you believe these areas should be prioritized?

- Shore power was identified as a priority investment, with air quality in general being reiterated by multiple stakeholders as the top priority for investment, so long as flexibility in accommodating diversified future operations is also a key consideration. The existing STAX bonnet barge was acknowledged as a temporary solution, and the question was asked about the feasibility/cost-effectiveness of this technology long-term.
- Retrofits specific to offshore wind were explicitly mentioned as being a real opportunity for Benicia since it is almost certain to happen in California within the next decade, despite the current political climate. This could be more of a job-creator than current operations and might bring more economic vitality to the City/area.

- Structural improvements to the pier were also identified as a priority for investment since growth in cargo volumes is hard to imagine without such investment.
- Infrastructure enhancements – especially to surrounding roads – was described as being of high importance, with other ports (i.e. Port of Oakland) being cited as having far superior cargo-handling assets. Park Road was singled out. It was suggested to start by addressing existing deficiencies to restore the port to a state of good repair, including upgrades to roadways, mechanical utilities, electrical infrastructure and telecommunications assets. It was also pointed out that, to grow the port it has to be seen as a logistics hub, not just a "last mile" connection to deep water.
- It was stated that historical maps from the U.S. Army along with archives of other projects in the area offer a unique and interesting perspective. For example, the port has drainage issues due to its uneven settlement over time and the resulting topography. AMPORTS maintains a total of four stormwater pump stations to handle stormwater coming down from the higher elevation areas of the City. These pump stations may be near the end of their useful service lives and need to be replaced. This is an opportunity to potentially resize them and bring them up to current standards. As-is, they do not contain filtration systems or "trash racks", meaning stormwater entering the adjacent Carquinez Strait is untreated.
- One concern raised was the extent of the geotechnical and utility work potentially required if elevation of the site is implemented as a sea level rise mitigation measure. In addition to replacing existing pump stations, adding filtration and trash capture systems, the site will need extensive geotechnical assessment because of the base soil situation. Effectively, the more weight you put on waterfront land, the faster it sinks, so this will need to be mitigated. It was noted that one of the AMPORTS paved areas in the lower port has a storage area where a water line runs through and ultimately into residential areas.
- Another concern raised was ownership of Bayshore Road. It is treated as a public roadway, but its ownership is more complicated. Union Pacific owns a portion of it and AMPORTS owns a portion of it. The City may only own the submerged lands supporting the road. This is due to how land was transferred when the U.S. Army was selling off surplus properties decades ago. Ownership of port land, including roadways and transportation right of ways in general, will need to be sorted out before expansion plans can be implemented.
- A third concern raised was the stability of the railroad tracks directly below the Benicia bridges. One stakeholder indicated that there have been derailments there in the past and that this remains a concern.
- Manufacturing associated with the potential return to California of large-scale domestic shipbuilding was expressed as an opportunity that could be highly beneficial to the Benicia community. What role in the supply chain Benicia might play is the challenge.
- Multiple stakeholders stated that continuing to emphasize heavy industry is what will serve the community best long term. It was acknowledged that stakeholders need to weigh what industry will look like in 30 years against current concerns. It was stated that Valero has to maintain a buffer zone around its refinery and that Phillips 66 in Los Angeles is shutting down their refinery and rezoning the whole space for residential/commercial uses, but that would not be good for Benicia given the number of jobs that Valero supports.
- One stakeholder suggested that, since Cal Maritime is being integrated into the Cal Poly system, there is an opportunity for Benicia to serve as a satellite campus for them as they grow. This suggestion included adding housing for students and others associated with the university on City-owned property and then establishing a water taxi service from the port to the main campus. Upon clarification, the Yuba property was the primary target of this suggestion. (NOTE: the Yuba property is not City-owned).
- It was pointed out that any resiliency plan specific to the port will need to be integrated into the City's resiliency plan.

Question 5: How can modernization of the port benefit local communities?

- One common sentiment from stakeholders was that reimagining the port infrastructure in a way that maximizes its revenue capability, minimizes its environmental impacts and allows it to contribute to City services more directly would be a win-win for all stakeholders. It was noted that even if all such revenue must go into tidelands areas, that would still be better than the status quo, though contribution to the community more broadly would be preferred.
- There was general consensus among all stakeholders interviewed that there's a need to protect industrial activity in Benicia and that growth of industrial activity is synonymous with job creation and additional tax revenue. It was expressed that the ability for people living in Solano County to be able to work in Solano County is highly desirable as opposed to having to commute (i.e. to the East Bay, South Bay or San Francisco).

Question 6: What are some specific ideas you have for improving the Port of Benicia's efficiency, safety features, environmental performance and/or resiliency?

- One stakeholder comment indicated that air quality in Benicia is most important; the refinery, trains coming through, etc. This stakeholder claimed that asthma rates are high in the area and further stated that AMPORTS moving cars also causes noise and light pollution, both of which are a bigger issue than vehicular traffic for residents. Continuous air quality monitoring and oversight on a regular basis through Solano County and/or by State regulatory agencies was offered as a specific recommendation. It was stated that the City has the capability to add air monitoring stations around the refinery, as well as at the port. It was further stated that open path monitors cost $1.5 million, but those are all very specific to Valero's processes; particulate matter monitors would be more appropriate to the port.
- At least one stakeholder stated that modernizing the port so that it can adapt to whatever type of manufacturing or other future business that may materialize is important. This individual also indicated that AMPORTS isn't necessarily locked into their current ro-ro operation, so there are possibilities to be explored.
- It was suggested that a truck route evaluation that allows for better separation of transportation network users would be beneficial to both the port and to residents in general. It was stated that cars are flying up and down residential neighborhood streets regularly and that perhaps port industrial traffic could be directed one way rather than cutting through the east side of town. It was communicated that a lot of complaints are made related to Military East, which intersects with Park Road.

Question 7: Do you think expansion is necessary and what are your considerations for potential growth?

- One stakeholder was adamant that the City should not have allowed AMPORTS (or previous private land owners) to purchase the existing port property and that it is difficult to manage public tidelands port with no public land to support it. This stakeholder indicated that they believe now the City's only ability to control what happens at the port is zoning.

Question 8: Are there any innovative approaches you believe could help enhance the port's value as a regional hub, not just for cargo operations, but across a variety of industries including (potentially) manufacturing?

- The value of looking at non-waterfront property for port support functions was raised by several stakeholders. For example, if port users need to off-load vehicles from a vessel, is it possible to move the vehicles farther inland to a location that is not so constrained by total acreage or topography and would this allow the port to operate more effectively and/or grow? If distance makes a difference, then what is the maximum tolerable distance for different types of cargo and can land be identified within an acceptable radius that takes pressure off the tidelands?
- Multiple stakeholders support evaluating manufacturing at the port, along with uses that are complementary to existing operations, such as electric vehicle battery manufacturing and testing.

- The condition of the existing pier was noted as a challenge because the structural composition is mixed (timber and concrete piling) so the "lowest common denominator" (i.e. weakest structural component) ultimately determines what type of waterborne cargo can be handled at the port. The trestle that links the pier to *terra firma* was rebuilt not long ago, but the portion of the pier where the trestle terminates was not rebuilt, and remains a timber-pile structure. Electrification, timber pile replacement and expansion of the existing pier structure were offered as potential solutions.
- Several stakeholders showed acute interest in identifying a role for the Port of Benicia related to shipbuilding as this has potential to greatly revitalize the area economically. All stakeholders acknowledged the uncertainty around this potential use as well as the fact that the port area would likely need significant reconfiguration to allow for this possibility/accommodate this use.
- The "Camel Barns" near the History Museum are within a historic overlay district and there is a perception that the land there cannot be used productively, which is an impediment to future port development. It was communicated that there is also a legacy of tension between the business community and the City of Benicia dating back to the 1970s and 1980s. One stakeholder indicated that there are lots of passionate residents with regard to historical structures in Benicia, but that looking at the Camel Barns it's difficult to make a case that they should not be demolished so the land they sit on can be repurposed.
- The idea of MTC/ABAG offering funding support for potential capital improvements at the port was suggested.
- Tolling, while acknowledged to be controversial, was also suggested as a means to help fund roadway improvements around the port.

Question 9: How can the project team best address these concerns and ensure a smooth implementation and community buy in?

- It was suggested that offshore wind should be explored, but also acknowledged that the market still needs to be proven. Available land, topography and location are the primary challenges according to some stakeholders familiar with the industry.
- It was suggested that the City should try to persuade MTC/ABAG to convert the current one-time grant award into a permanent funding program as this would demonstrate that supporting blue-collar jobs that have a meaningful economic impact is an important long-term objective. It was disclosed that a group of community economic directors within the region are already planning to discuss the future role of MTC/ABAG in similar planning and capital improvement efforts going forward.
- Plan Bay Area 2050+ includes a very small section related to industrial lands. The plan for 2060 is underway and at least one stakeholder would like to use the current Modernization plan for the Port of Benicia to spur additional conversations related to increasing the emphasis on industrial properties.
- Establishment of a public port district for Benicia was suggested as a means to facilitate collaboration between different waterfront communities related to sea level rise. The belief of the stakeholder that raised this is that cities with port districts are in a better position to get public funding for mitigation measures.
- Multiple stakeholders indicated that the team should avoid introducing mixed uses to the current port area as that could cloud the issues and distract from meaningful investment in heavy waterfront industrial improvements. Non-industrial solutions were generally perceived as counter-productive by all stakeholders interviewed.
- There was a general sentiment among stakeholders that a balance between potential community concerns and the needs of both AMPORTS and the City to generate greater revenue from port operations must be achieved to maximize buy-in while also allowing for positive growth. There was also a general sentiment among some stakeholders that AMPORTS needs to contribute more to public infrastructure at and around the port, not just its own assets as this would be the most fair and most sustainable future situation.

- There was strong consensus that port improvements would be a great use of the settlement money from BAAQMD, but $64 million will only go so far. One solution was to leverage the BAAQMD settlement money as matching funds for other grant programs (state and/or federal). Installing multiple air quality monitoring stations near the port and in other parts of the City was offered as an alternative solution. Ultimately, two different City commissions – the Community Sustainability Commission and the Community Oversight Commission – will work with BAAQMD to determine how the settlement funds get spent.

Current Infrastructure Assessment

Pier Structure

In January, 2025, the GHD team completed a landside visual inspection of the existing pier structure. See Figures 7-10 below.

The pier structure serving the port was originally constructed in 1942 and certain portions of it are reaching the end of their useful lives. Built on a combination of timber and concrete piles, this structure has a length overall of approximately 2,400 feet and is divided into three berthing areas, known as Berth West, Berth Center and Berth East. The pier can accommodate two vessels simultaneously with a maintained depth of -38 feet (mean lower low water (MLLW)). Roll-on/roll-off (ro-ro) vessels berth in the Berth West and Berth Center area while petroleum coke vessels berth in the Berth Center and Berth East area.

The entire pier structure has experienced significant degradation over time and is at risk of frequent flooding by mid-century due both to long-term sea level rise (SLR) and future precipitation events that are projected to become increasingly more frequent and more intense due to the effects of climate change.

The port's STAX unit, which is used to capture and sequester vessel emissions at berth using a California Air Resources Board (CARB) approved bonnet system lays up at the far southwest end of the pier when not in use, as do the tug boats used at the port.



Figure 7: Port of Benicia STAX Unit and Lay Berth (source: GHD)



Figure 8: Port of Benicia STAX Unit Lay Berth Showing General Condition of Wharf Face and Deck (source: GHD)



Figure 9: Port of Benicia Tug Boat Lay Berth Showing General Condition of Wharf Face and Deck (source: GHD)

A significant portion of the northeastern half of the main pier structure (Berth Center), where petroleum coke operations occur, was rebuilt using concrete piles following the 2022 fire at the port. Figure 10 illustrates the extent of this damage. The southwestern half of the structure (Berth West) and the liquid bulk terminal (Berth East) were largely undamaged by the fire and were reopened within days of the fire being extinguished, following a detailed safety and operability inspection and U.S. Coast Guard approval.



Figure 10: Port of Benicia Pier Damage Following 2022 Fire (source: Pacific Marine Business News)

One of the primary challenges the port faces is the variation in load-bearing capacity of the different sections of the pier. The newer concrete pile sections can support up to 500 pounds per square foot while the timber pile sections are limited to 250 pounds per square foot or less. Because the area immediately adjacent to the trestle connecting the pier to the *terra firma* backland areas of the port is timber-pile supported, it serves as the controlling load capacity for all operations at the Port of Benicia. This limits the type of cargo that can be handled at the port since "high and heavy" cargo, including tractors, military equipment, and many types of break-bulk and project cargo would exceed the structural capacity of the pier.

Transportation Network

The Port of Benicia plays a vital role in Northern California's regional freight network. In 2021, California exported to 226 freight markets, valued at approximately $175.1 billion, an increase from $155.9 billion in 2020. In addition to supporting international trade, the freight system also facilitates commerce internally. The Port of Benicia is the only privately owned and operated port in California, alongside 10 publicly-owned deep-water seaports. California's freight network includes 12 seaports in total, 12 airports with major cargo operations, two Class I railroads and 27 short line railroads operating over approximately 6,500 miles of track, and approximately 5,800 miles of high traffic volume interstate and state highways. Each of the seaports specializes in a different mix of major cargo types, commodities, and service territories. Port of Benicia handles mostly automobiles, serving as a key gateway for vehicle imports and exports.

Interstate Connections

The Benicia Industrial Park (BIP) is served by two rail lines via Union Pacific Railroad (UP). The major highway/freeway corridors serving the port include I-680, I-780, and SR-37. Both I-680 and I-780 are a part of the National Highway System (NHS) and National Highway Freight Network (NHFN).

I-680 is a major north-south freeway located one mile from the Port of Benicia, connecting the southern San Francisco Bay Area with I-80. The corridor passes through Santa Clara, Alameda, Contra Costa, and Solano counties, linking regions such as San Jose, the East Bay, and Sacramento Valley. The I-680 corridor serves multiple roles including local traffic flow between Benicia and Fairfield, commuter connections to major economic/employment centers, and interregional travel and goods movement via direct access to I-80.

In Solano County, I-680 runs through the City of Benicia as a freeway corridor adjacent to rail, maritime, and commercial-industrial zones, including the Union Pacific Railroad (UP) and the Port of Benicia. The corridor provides access to Benicia's industrial and commercial hubs while also supporting freight and goods movement through direct access to I-80, I-780, SR-12 and indirect access to I-5, I-505, SR-37 and SR-99.

I-680 connects with SR-4, an east-west corridor south of Port of Benicia that supports the movement of goods between Central Valley and the ports of Oakland and Richmond, with connections to oil refineries and other industries. As part of the NHFN network, I-680 also carries heavy truck volumes and the average daily vehicle counts (AADT) is approximately 189,000 daily vehicle trips, with 9,135 (4.8 percent) of those accounting for freight volumes.

I-780 runs from the cities of Vallejo to Benicia in Solano County. The corridor links I-80 at Curtola Parkway with I-680 at the north end of the Benicia-Martinez Bridge spanning Carquinez Strait, near Army Point. The connection to I-80 provides access to major cities such as San Francisco and Sacramento, and the connection to I-680 links to the East Bay area and extends connection southward to San Jose. In addition, I-780 also serves residential and commercial areas in Vallejo and Benicia.

The AADT varies along different segments on I-780, and the western segment that is closer to I-80, further from the port, has approximately 136,000 vehicles per day. The eastern segment, near I-680 has approximately 154,400 vehicles per day. I-780 serves as a connector for freight movement between I-80 and I-680, providing connectivity to regional industrial areas and ports.

Local Roadways

As previously summarized in Figure 2, the port is connected to the U.S. interstate system via four primary surface streets. Bayshore Road and Industrial Way provide direct access to AMPORTS' southwestern and northeastern properties, respectively, with Adams Street connecting Bayshore Road to Park Road within the lower arsenal area of the City and Park Road serving as a primary cross-city connector to the I-680 southbound/I-780 westbound on-ramp. The I-680 northbound on-ramp is accessed via Industrial Way. Likewise, the I-680 southbound off-ramp terminates at Industrial Way with the I-680 northbound off-ramp terminating at Bayshore Road. Figure 11 below shows these and other approved truck routes within the City of Benicia.

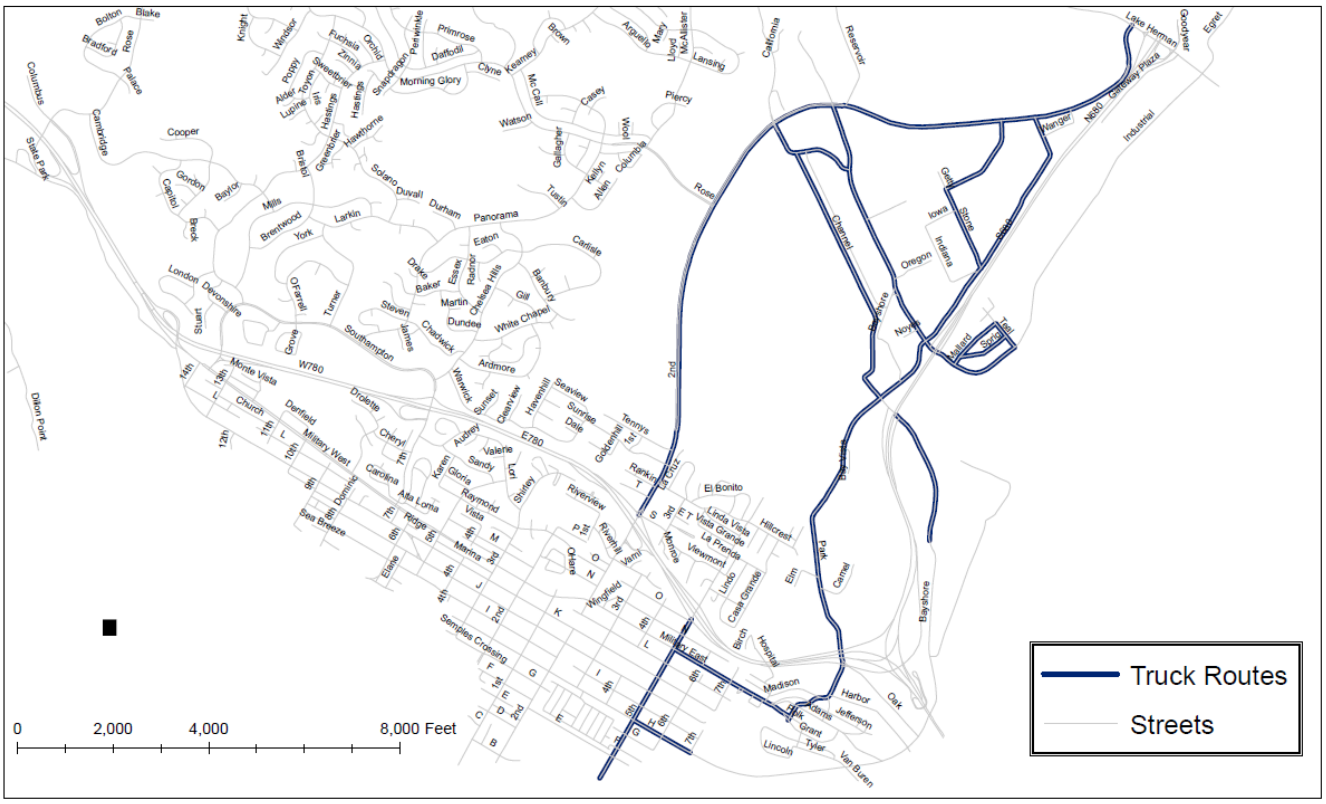


Figure 11: Approved City of Benicia Truck Routes (source: City of Benicia)

In 2024, GHD team member Haley & Aldrich completed an engineering and traffic survey for each of the four primary surface streets serving the Port of Benicia, primarily to determine a recommended posted speed limit for each. What follows is a summary of their findings relevant to this Facilities and Infrastructure Modernization plan. Figures 12-18 document the existing conditions of theses roadways. Figure 19 presents a pavement zone/condition map for the entire City of Benicia, current as of late 2024. It should be noted that several stretches of Bayshore Road are not owned by the City of Benicia.

- Bayshore Road (Adams Street to Park Road)
    - Bayshore Road is a two-lane commercial/industrial arterial street with railroad track and commercial/industrial frontage and limited on-street parking
    - Traffic flow on Bayshore Road is controlled by stop signs at Adams Street and the railroad spur 360 feet east of Park Road
    - There are numerous streets and driveways that exchange traffic with Bayshore Road and some areas where parking lots have direct access to the roadway without driveways
    - There is minimal curb and gutter infrastructure along the roadway and concrete barriers are present along portions of the roadway separating the road from the railroad tracks

- Bayshore Road is constructed without sidewalks
- The roadway surface within the study area is in poor condition
- Speed limits on this segment of Bayshore Road range from 25-35 miles per hour
- Railroad spurs, high truck volumes, narrow lanes, minimal or no shoulders, and poor roadway surfaces are major factors that might limit the speed of traffic for safe travel below the proposed speed limit



Figure 12: Bayshore Road Facing Southwest (source: Google Earth/GHD)



Figure 13: Bayshore Road Facing Northeast (source: Google Earth/GHD)

- Bayshore Road (Industrial Way to East Channel Road)
  - Bayshore Road is a two-lane commercial/industrial arterial street with railroad track and commercial/industrial frontage and limited on-street parking
  - Traffic flow on Bayshore Road is controlled by stop signs at Industrial Way and the railroad spur/East Channel Road
  - There are no streets or driveways that exchange traffic with Industrial Way
  - Curb and gutter infrastructure exists along one side of the roadway where not interrupted by railroad tracks
  - Bayshore Road is constructed without sidewalks
  - The roadway surface within the study area is in poor condition
  - There are no posted speed limits on this segment of Bayshore Road
  - The railroad spurs and short roadway segment are major factors that might limit the speed of traffic for safe travel below the proposed speed limit



Figure 14: Bayshore Road at Intersection with East Channel Road (source: Google Earth/GHD)

- Industrial Way (Interstate 680 to Lake Herman Road)
    - Industrial Way is a two-lane commercial/industrial collector street with commercial/industrial, warehouse, and undeveloped frontage
    - Parking is allowed and there is heavy industrial vehicle traffic
    - Traffic flow on Industrial Way is controlled by stop signs at the I-680 northbound on-ramp and at Lake Herman Road
    - There are two streets, and numerous commercial driveways that exchange traffic with Industrial Way
    - Curb and gutter infrastructure exist along the more developed portion of the roadway
    - There are no sidewalks along Industrial Way
    - Sight distances along Industrial Way at its intersections is limited for the proposed speed limits
    - The roadway surface within the study area is in good condition
    - There is heavy truck traffic on this roadway
    - The posted speed limit on this segment of Industrial Way is 40 miles per hour
    - In 2016, a “bus hub” was constructed at the corner of Industrial Way and Park Road



Figure 15: Industrial Way Facing I-680 Northbound On-Ramp (source: Google Earth/GHD)

- Adams Street (Jefferson Street to Bayshore Road)
    - Despite being classified as a principal arterial road in the Caltrans CRS maps, this small section of roadway meets all of the requirements for a local street or road, and was therefore not assessed, by virtue of meeting the following criteria: roadway width of not more than 40 feet; not more than one-half

of a mile of uninterrupted length; and not more than one traffic lane in each direction.

- High truck volumes were observed
- The posted speed limit on Adams Road is 30 miles per hour



Figure 16: Intersection of Adams Street and Bayshore Road Facing Northwest (source: Google Earth/GHD)

- Park Road (Bayshore Road to Adams Street)
  - Park Road is a two-lane industrial collector street with industrial and undeveloped frontage, limited on-street parking and heavy industrial vehicle traffic
  - Traffic flow on Park Road is controlled by a stop sign at Bayshore Road and Adams Street
  - There are seven streets and many industrial driveways, many with curb returns that have the appearance of a street, that exchange traffic with Park Road
  - Curbs, gutters, sidewalks, and bike lanes exist along some sections of the roadway
  - Sight distances along Park Road at some intersections are limited due to roadway curves and bridge abutment
  - The roadway surface in some areas within the study area is in poor condition
  - The intersection of Adams Street and Park Road includes a roughly 270 degree turn when heading northwest on Adams Street and turning right on Park Road. This intersection also features a steep northeasterly incline/southwesterly decline
  - The intersection of Bayshore Road and Park Road, while flat, includes a railroad crossing and abuts the I-680 southbound on-ramp as well as the I-680 northbound off-ramp



Figure 17: Intersection of Park Road and Adams Street Facing Northeast (source: Google Earth/GHD)



Figure 18: Intersection of Park Road and Bayshore Road Facing Northeast (source: Google Earth/GHD)

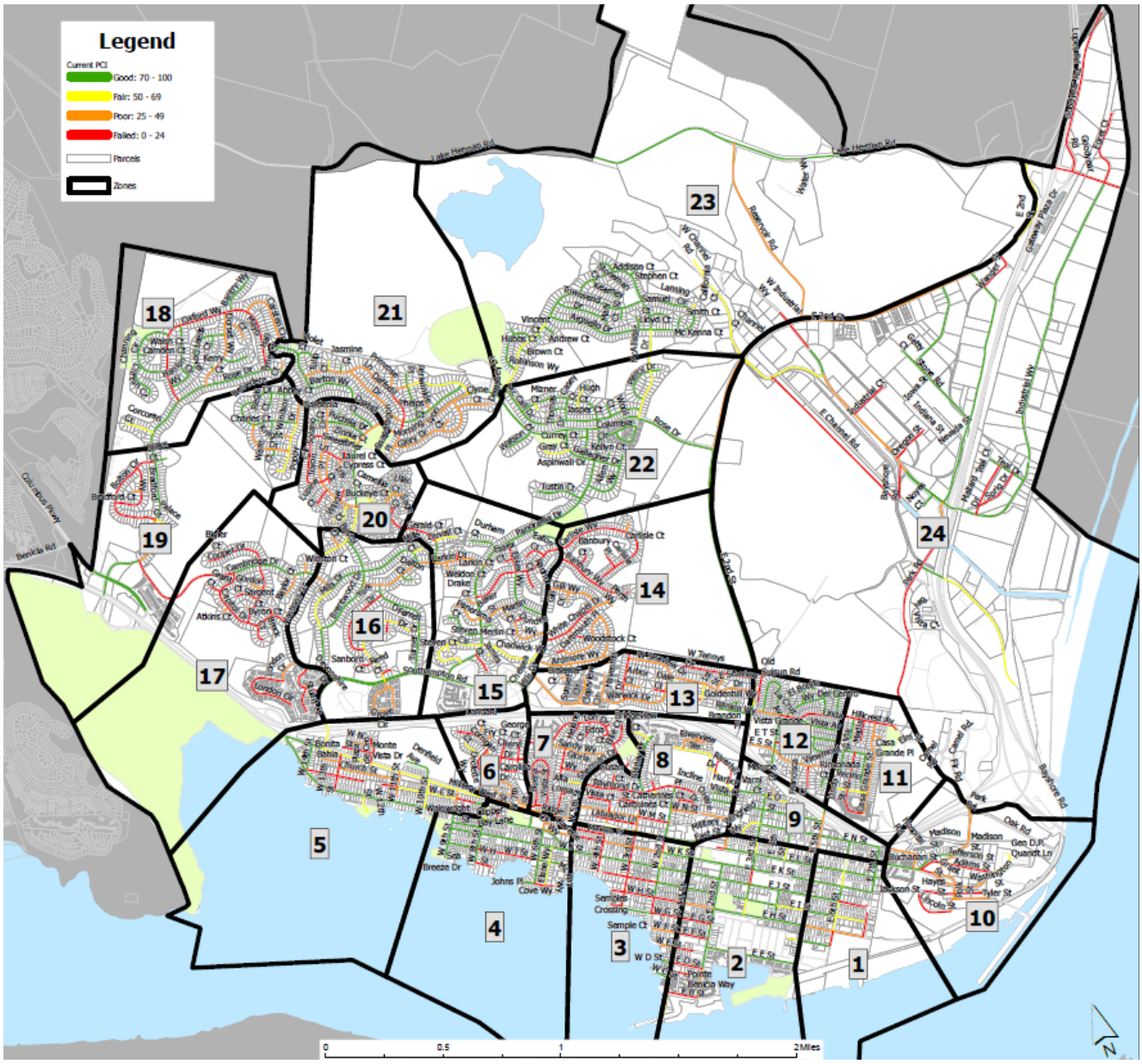


Figure 19: City of Benicia Pavement Zone Map (source: ci.benicia.ca.us/roads)

Intermodal Network

The Port of Benicia is served exclusively by UP, which provides transcontinental "piggyback" services (i.e. loaded truck trailers moved via flat cars). UP operates 3,362 miles of track in California and is supporting the state's economy through freight operations. At the Port of Benicia, UP provides essential rail connectivity, facilitating efficient cargo movement. The port is served by two rail lines, allowing loaded truck trailers to be transported on flatcars, which streamlines logistics and reduces road congestion. UP's infrastructure at the port can serve 170 multilevel railcars simultaneously, which benefits the automobile processing operations, providing efficient movement of vehicles to and from the facility. Figure 21 highlights Benicia as one of many distribution centers, within UP's owned and leased network.

The Port of Benicia serves as an important intermodal hub, integrating maritime, rail, and roadway transportation to facilitate cargo movement. See Figures 22-25 below. The port's connectivity between various modes of transportation allows seamless freight transfers across the regional freight networks, supporting the automotive, petroleum coke, energy, and bulk cargo industries. However, there are constraints in coordinating among these modes that include operational challenges in transfers, last-mile delivery, and other infrastructure constraints.

Specific to last-mile delivery, the final leg of cargo delivery depends heavily on the efficiency of local roadway connections. The local routes around Port of Benicia serve as critical truck routes that connect to major arterials such as I-680 and I-780. Traffic congestion, travel delays, and roadway capacity restrictions can impact the movement of goods and impede terminal operations. Similarly, if there is a challenge with scheduling coordination between rail services/locomotive arrivals, port operations and truck movements, the delays can increase. Lastly, infrastructure constraints in the form of limited storage capacity can slow down freight operations and handling processes. The Port of Benicia functions relatively well in terms of last-mile delivery based on feedback from AMPORTS. That said, the condition of several roadways adjacent to the port, especially certain sections of Bayshore Road and Park Road as shown above, may present both flow and safety concerns if not addressed. These issues will be explored further as part of Task 2 of this Modernization plan.

The AMPORTS facility includes an on-dock rail yard that allows UP to offer direct service to rail cars, which is optimal for long-range import vehicle distribution and, potentially, domestically manufactured vehicle exports. Additionally, UP operates a dedicated short-haul rail service to transport petroleum coke from the Valero Benicia refinery to the coke silos at the port.

Multiple attempts were made as part of this modernization planning effort to contact UP in order to have a discussion related both to their current operations at the port and to potential future service offerings or business development targets. Unfortunately, as of the delivery of this report, UP has been unresponsive. The GHD team will continue to reach out to UP through the remainder of the plan development period and will incorporate any feedback received, as appropriate, into future deliverables.



Figure 20: Benicia UP Rail Facility (source: https://www.beniciabusiness.com/port-rail)



Figure 21: UP Automotive Facilities (source: Union Pacific Automotive Facilities)

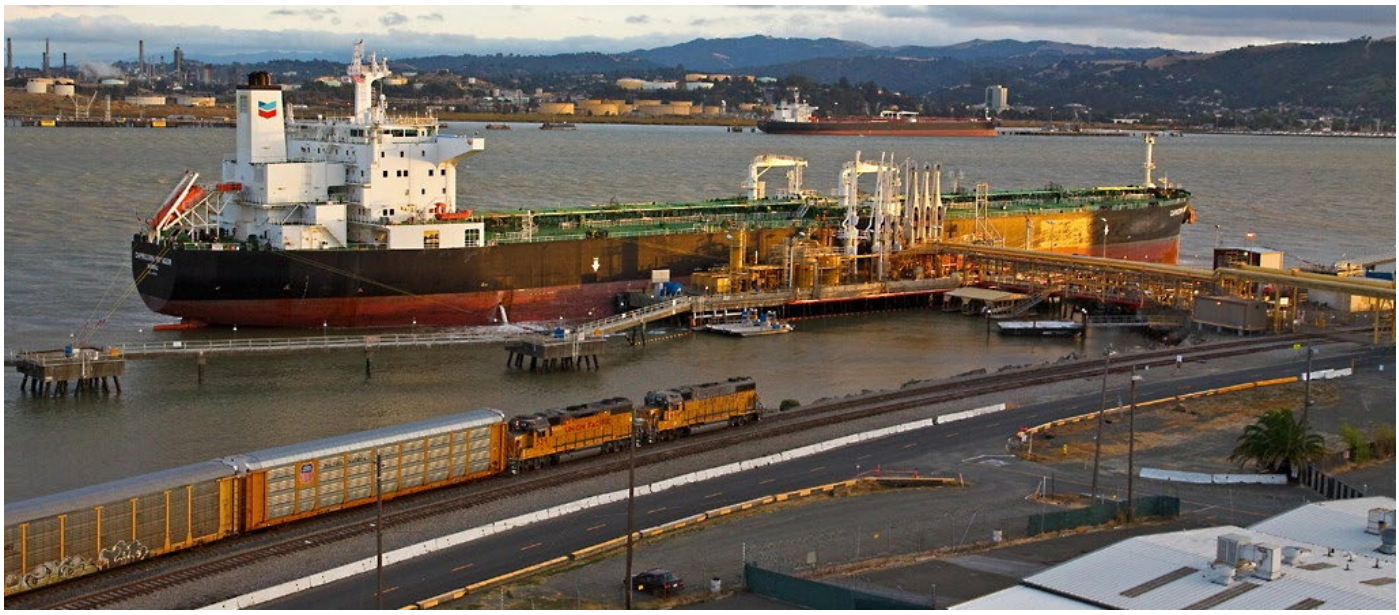


Figure 22: Union Pacific Railroad Operations at Port of Benicia (source: railpictures.net/Adam Pizante)



Figure 23: Union Pacific On-Dock Rail Spur at Petroleum Coke Operation (source: Google Earth/GHD)

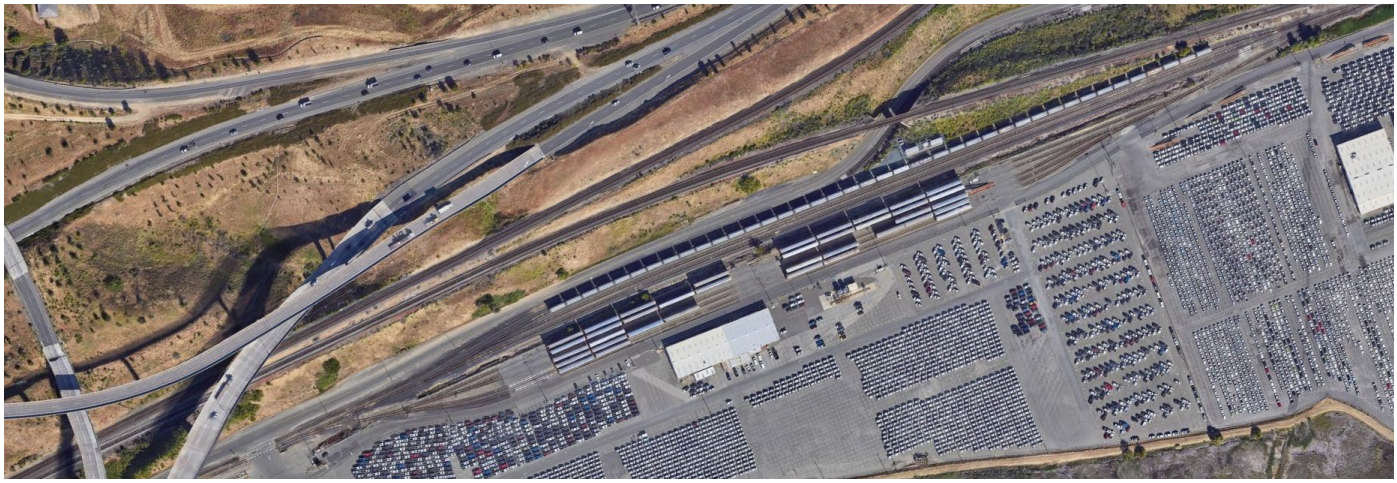


Figure 24: Union Pacific Rail Yard Adjacent to "Yard 7" (source: Google Earth/GHD)

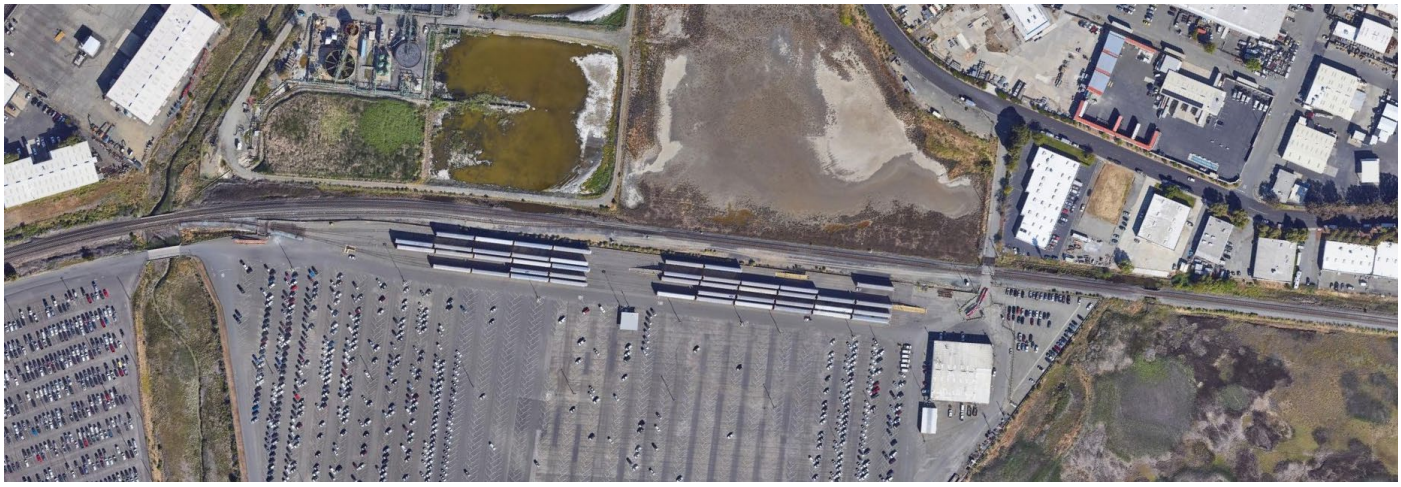


Figure 25: Union Pacific Rail Yard Adjacent to "Yard UP Lease 2" (source: Google Earth/GHD)

Utilities

Mechanical Utilities

Mechanical utilities include water, wastewater/sewer, stormwater and fire protection systems. As noted above, port-specific mechanical utility information is not consistently available for purposes of this infrastructure assessment due to the age and general lack of quality as-built documentation related to AMPORTS properties at Port of Benicia. The City of Benicia does maintain water/fire protection infrastructure information in its Geographic Information System (GIS), including for the port. See Figure 26 for reference. Similar information for wastewater/sewer and storm drain information is included in Appendix C. A detailed survey of the port in collaboration with AMPORTS will be necessary as part of any landside infrastructure modernization effort. A rough order of magnitude cost allocation for such a survey will be included as part of the Capital Improvement Plan and Yard Expansion feasibility analysis completed during Task 4 of the project. At minimum, new stormwater infrastructure will be required at the low-lying port facilities located immediately southwest and northeast of the George Miller Jr. Memorial and Benicia-Martinez Railroad bridges. This is due to the fact that these areas currently serve as the discharge points for all upland areas that shed water to that side of the City of Benicia. While there are four pump stations in service at these facilities (two southwest of the bridges, two northeast of the bridges) stormwater is currently discharged directly into the adjacent Carquinez Strait without filtration or any other treatment as a result of the age of the infrastructure and legacy regulatory frameworks. AMPORTS also believes these pump stations, while functional, are near the end of their useful lives.

Electrical Infrastructure

Information provided by PG&E indicates that there is an overhead facility along Bayshore Road extending from Oak Road at its east end all the way to the 5th Street intersection at its west end. Along this route PG&E has a 12 kV overhead line. The existing PG&E 12 kV overhead facility includes existing power poles at the south side of Bayshore Road adjacent to Van Buren Street. The south end of this street connects to the wharf entrance. See Figure 27 below for reference.

It is not clear whether PG&E's existing facilities would be able to accommodate the amount of power needed for additional terminal electrification, including a minimum of two at-berth shore power systems. In a worst-case scenario, PG&E would be required to upgrade their circuits to provide sufficient capacity to deliver the required shore power to the terminal entrance. Appendix A includes detailed electrical infrastructure maps for the port.

In addition to buildings, pump stations, lighting infrastructure and other standard on-port electrical consumption, AMPORTS currently has 30 electric vehicle charging stations on port and expects to need up to 20 additional level 3 chargers by 2035. Electric vehicles are shipped with minimal charge as a matter of best practice, so only minimal “emergency” charging capacity is required in cases where complete battery depletion is a risk. One important operational note shared by AMPORTS is that it will not be illegal in the future to ship gasoline- or diesel-powered vehicles through the Port of Benicia to final points of rest that are outside California, even if the current 2035 zero-emission vehicle mandate remains in place. This is true because this requirement applies only to vehicles that are sold within the California. The port’s future electrical infrastructure needs will be further explored as part of Task 3.

Gas Infrastructure

PG&E records indicate that there are underground natural gas lines at the perimeter of the terminal. These gas lines are part of the city-wide network which provide gas to the area. Figure 28 shows the alignment of PG&E's existing natural gas line infrastructure adjacent to the port. The existing gas line infrastructure serves to provide natural gas services to the existing buildings located on or at the terminal facilities. Appendix B includes detailed gas asset maps for the port.

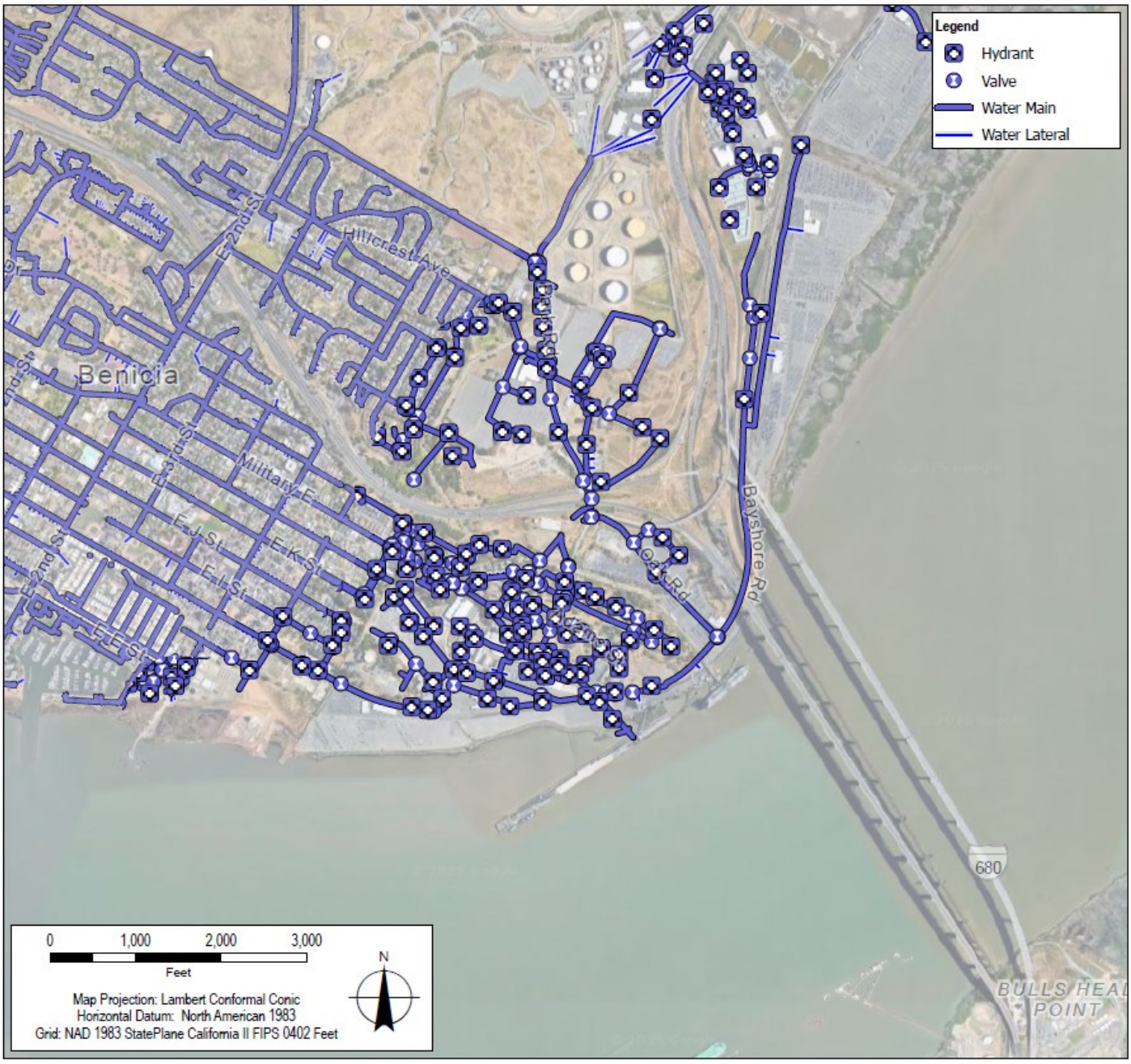


Figure 26: City of Benicia Water/Fire Protection Infrastructure (source: City of Benicia/Google Earth/GHD)

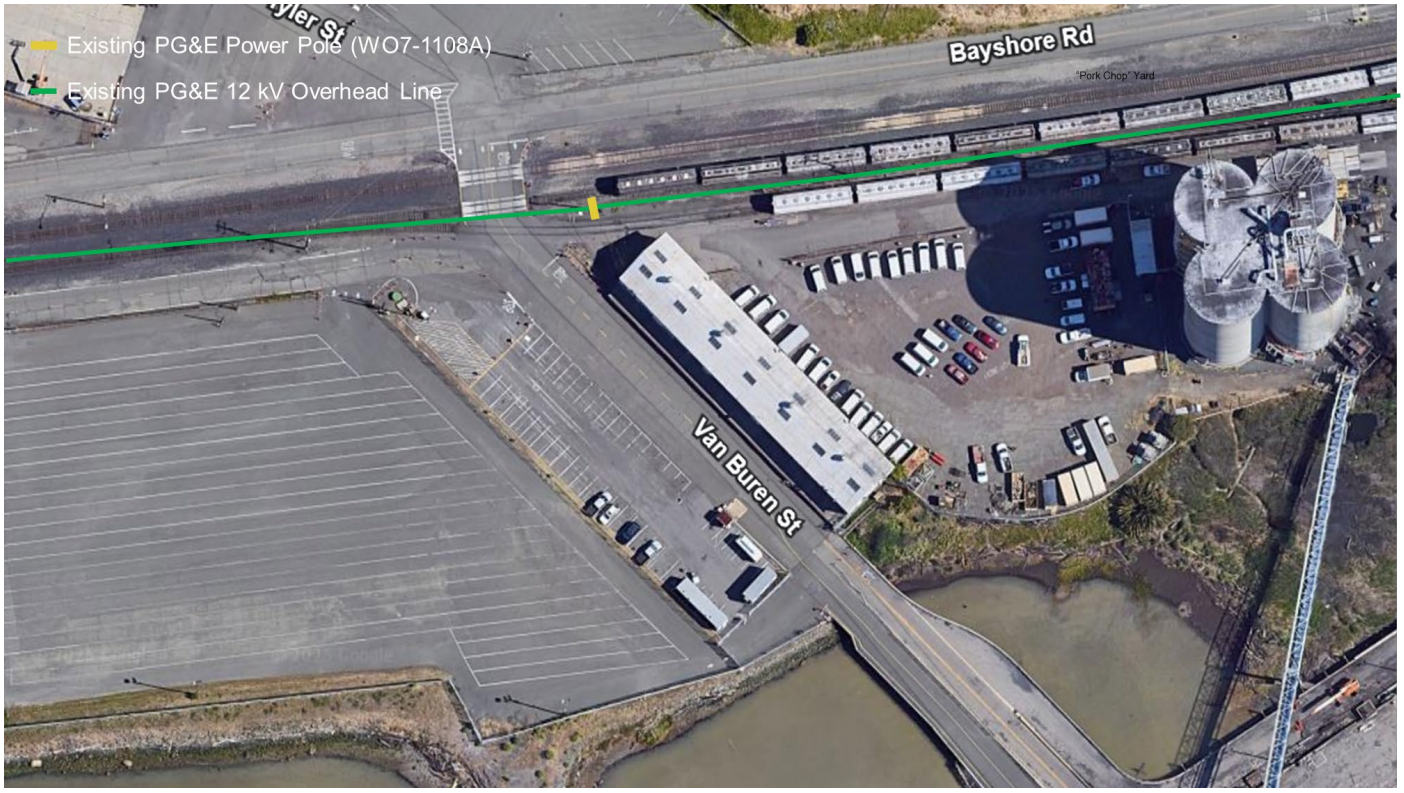


Figure 27: Existing PG&E 12 kV Overhead Line (source: Google Earth/PG&E/H3)



Figure 28: Existing PG&E Natural Gas Lines (source: Google Earth/PG&E/H3)

SWOT Analysis

In order to assess the relative strengths and weaknesses of the Port of Benicia, as well as potential opportunities and threats, the GHD team completed a SWOT analysis of the port. This SWOT analysis focuses on the following aspects:

- Location
- Condition
- Economics

Strengths and weaknesses generally refer to intrinsic qualities of the port while opportunities and threats primarily refer to external factors.

Location

Strengths

- South/east of the George Miller Jr. Memorial and Benicia-Martinez Railroad bridges at intersection of the I-680 and I-780 freeways
- Access to San Francisco Bay and ocean routes via the Carquinez Strait
- Rail-served by one of two western US class 1 railroads (UP)
- Isolated from residents due to buffer provided by topography and other Benicia Priority Production Area industrial uses
- Owned privately by operator (AMPORTS)

Weaknesses

- Very limited waterfront acreage
- Significant grade changes between waterfront and upland areas
- Extremely limited footprint expansion potential
- Private ownership of waterfront industrial property
- Potential for certain cargo types is limited by the location/size and condition of the port's existing infrastructure as well as Carquinez Bridge clearance (140 feet)

Opportunities

- Designation within AB 525[7] (Offshore Wind Energy Strategic Plan) as potential offshore wind manufacturing and fabrication site
- Potential development of east Solano County shipyard as part of the California Forever project

Threats

- Existing business can be accommodated at other facilities (i.e. Antioch)
- Other ports in the region may face fewer location-related constraints, or be better positioned to remove those constraints

[7] https://www.energy.ca.gov/data-reports/reports/ab-525-reports-offshore-renewable-energy

Condition

Strengths

- One of only 11 deep-water ports in California
- Some sections of the existing pier structure have been upgraded
- An existing levee effectively mitigates near-term flood risk in most cases (tidal surge/storm wave overtopping)

Weaknesses

- Obsolete infrastructure (pier + landside assets), which serves as a constraint on cargo loads and limits types of cargo that can be handled
- Several areas of the port backlands are below sea level at certain times of the day due to uneven settlement patterns during the past 60+ years
- Antiquated stormwater system and poor visibility into location of other underground mechanical systems
- Generally uneven topography across all port properties, including severe grade changes between parcels
- Generally poor road conditions around the port
- Highly susceptible to future SLR (existing levee not adequate for future SLR scenarios)
- No existing shore power infrastructure
- Potential for certain cargo types is limited by the location/size and condition of the port's existing infrastructure as well as Carquinez Bridge clearance (140 feet)

Opportunities

- Upgrade existing pier infrastructure to accommodate a greater variety of cargo types (i.e. high and heavy ro-ro cargo, project cargo and breakbulk cargo)
- Increase berth capacity by replacing the timber sections of the Berth West and Berth Center areas of the existing pier with concrete piles
- Use some portion of the Bay Area Air Quality Management District (BAAQMD) settlement money to install shore power and/or leverage BAAQMD settlement money to secure other third-party funding (i.e. state/federal grants) to make necessary capital improvements to the existing pier structure, including shore power
- Increase the resiliency of the port by enacting measures that mitigate future SLR and other inundation risks

Threats

- Private operator may prioritize investment in other port sites (i.e. Antioch) rather than Benicia

Economics

Strengths

- Age and private ownership of port backland infrastructure likely results in very low legacy operating costs
- Existing Valero Benicia refinery produces a built-in export cargo (petroleum coke)
- Ro-ro cargo infrastructure investment needs are relatively minimal compared to other cargo types

Weaknesses

- The Port of Benicia is currently entirely dependent on just two products: imported automobiles and exported petroleum coke

- Zero revenue from port operations accrues to the City of Benicia
- Only AMPORTS has visibility into the port's profit and loss (P&L) situation
- Several areas of the port backlands and pier structure require investment from both a state of good repair and a future resiliency perspective, which means significant future investment is likely required
- Potential for certain cargo types is limited by the location/size and condition of the port's existing infrastructure as well as Carquinez Bridge clearance (140 feet)

Opportunities

- Leverage BAAQMD settlement money to secure other third-party funding (i.e. state/federal grants) to make necessary capital improvements to the existing pier structure, including shore power
- A City-AMPORTS partnership following expiration in 2031 of the existing AMPORTS lease that facilitates capital improvements to increase capacity and allow/incentivize AMPORTS to consolidate regional ro-ro operations in Benicia
- Identify alternative uses and/or cargo types for the Port of Benicia that further diversify its revenue streams and makes it more resilient to economic uncertainties

Threats

- The relative "value" of the Port of Benicia to AMPORTS overall business model vs. other locations (i.e. Antioch) is unknown to anyone other than AMPORTS
- Tariffs and other significant changes to existing supply chains that make Port of Benicia irrelevant
- Potential Valero Benicia refinery idling/restructuring/cessation of refining operations and associated loss of export cargo (i.e. petroleum coke)
- Private operator may prioritize investment in other port sites (i.e. Antioch) rather than Benicia
- AMPORTS could choose to move its existing ro-ro operations to another location, subject to market conditions and the result of negotiations with the City related to their 2031 lease expiration

Appendix A: Benicia Port Area Electrical Assets

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OVERVIEW MAP

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1 inch = 550 feet

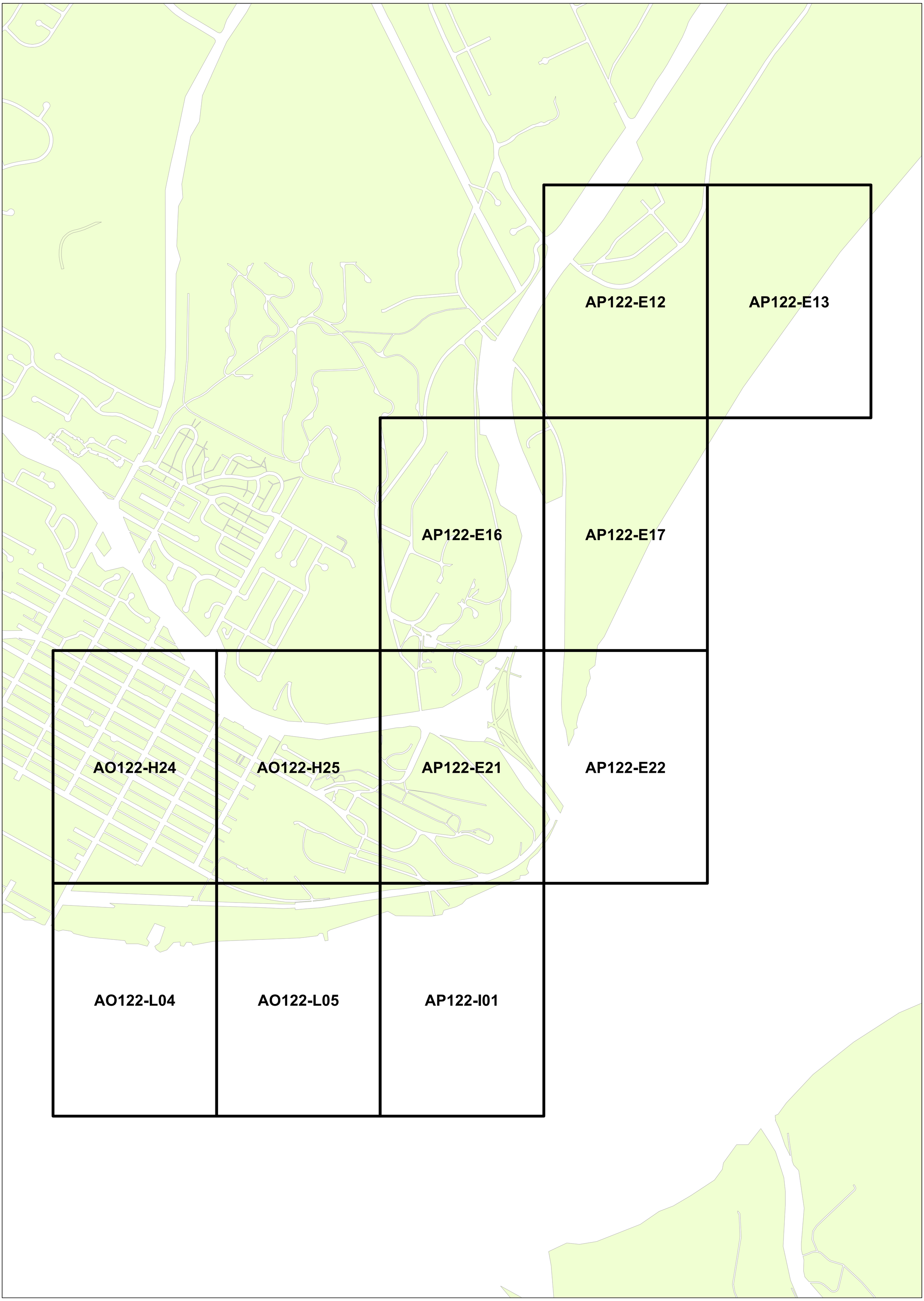
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OVERVIEW MAP

AO122-H24

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E 3RD ST
E 4TH ST
E 5TH ST
E 6TH ST
E 7TH ST
E K ST
E L ST
E J ST
E I ST
E H ST
E G ST
E F ST
E E ST
E N ST
E O ST
MILITARY E
I-780 W
I-780 E
MILLS ELEMENTARY
MILLS ELEMENTARY SCHOOL
ST.DOMINICS CHURCH
ST.DOMINICS ELEMENTARY
VILLA TIENDAS SHOPPING CENTER
HARVEY PLAZA SV 2-4"
BENICIA WASTEWATER TREATMENT PLANT
ZELLIQUE 27T GLASS
BAYSHORE RD
PIERCE ST
1845 SB
6813
7317
7871 SB
5477
6511
T2844
1593
3451
721 SB
919029
T3807
607 SB
T3799
T3927
T3343
T3655
T15967
T3323
T77092
T3808
T3839
T3451
T82201
93356
85818
32016
41282
J9012
575 SB
5941
6043
T2840
6545
7933
1875
283
2521
1849
1512
1003 SB
8109
T0494
T3862
8075
J414
T4639
1963
1964
1962
5321
1-1000A QPX
1-1/0A TPX
1-2A TPX
1-4/0A TPX
1-4/0A XLP TPX 3"
1-350A TPX
3-6C 12kV
3-2
3-1/0C 12kV
3-4AR 12kV
2-6C 12kV
3-2C
3-4/0AAC
3-1/0A
2-4AR 12kV
1-6A DPX
1-6 DPX
2A TPX
2-2A XLP 12kV CIC
1-4/0A XLP TPX 2"
1-4/0A XLP TPX 4"
3-600A EPR 12kV 6"
3-700A XLP 12kV 6"
3-350A XLP TPX & 1-4/0 3"
1-4/0A XLP TPX 3"
1-4/0A XLP TPX 2"
1-4/0A XLP TPX 4"
1-4/0A XLP TPX JT 3"
1-4/0A TPX JT 3"
1-4/0A TPX 3"
1-4/0A TPX 4"
1-4/0A TAC
1-4/0A QAC
1-4/0A QPX
1-4/0A QPX JT 5"
1-4/0A QPX JT 3"
1-4/0A QPX JT 4"
1-4/0A QPX JT 2"
1-4/0A QPX JT 3.5"
1-4/0A QPX JT 4.5"
1-4/0A QPX JT 5.5"
1-4/0A QPX JT 6"
1-4/0A QPX JT 7"
1-4/0A QPX JT 8"
1-4/0A QPX JT 9"
1-4/0A QPX JT 10"
1-4/0A QPX JT 11"
1-4/0A QPX JT 12"
1-4/0A QPX JT 13"
1-4/0A QPX JT 14"
1-4/0A QPX JT 15"
1-4/0A QPX JT

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UNITED STATES MILITARY RESERVATION
PINE LAKE
CLOCKTOWER GROVE APTS
BENICIA INDUSTRIAL PARK
CONCRETE SLAB
T-197
I-780 W
I-780 E
HOSPITAL RD
BIRCH RD
BUCHANAN ST
MILITARY E
E N ST
E ST
E 7TH ST
E J ST
VICTORIAN CT
MAIN GATE TER
MADISON ST
JEFFERSON ST
ADAMS ST
PARK RD
POLK ST
HAYES ST
GRANT ST
TYLER ST
JACKSON ST
LINCOLN ST
TAYLOR ST
PIERCE ST
BAYSHORE RD
I-24
TENNIS COURT
T2656
T2657
T3629
T4421
T4422
T2315
T2316
T2317
T0558
T5347
T0113
T1870
T5890I9
T5389399
T279073
T4498
T4499
T0403
T2653
T3151
6963
203371
3555
4399
4323
3003
6211
5323
2937
5819
8443
8658
7102
2061
3359
8461
6437 SB
T2632
GM4300273 '84 1-350A XLP 12kV
GM4300273 '84 1-1/0A TPX JT 3"
GM4300273 '84 1-1/0A TPX 3"
GM4300273 '84 1-350A XLP JT
WO4300273 2-2A XLP 12kV CIC
PMslinv
X-1404
X-1606
X-1607
1-6 DPX
3" Spare
2" Spare
1-1/0A TPX JT 3"
1-1/0A TPX 3"
1-350A XLP TPX
1-350A XLP 12kV
PM3521913 2'20
PM3521913 2'20
PM35028277 '19 1-4/0A TPX 3"
PM31311741 '17 1-1/0A TPX 3"
WO9-1896-B '79 1-6A DPX
1-1/0A TPX PM31212478 '17
GM435995 '68
GM3110510 3555 600A
GM174005 '70 3-397A 12kV
GM174065 '70
GM463010 3-397A 12kV
PM31049502 '14
PM30240869 '02
PM30378471 '06 3-4AR 12kV
1-1/0A TAC WO9-1930-A '78
1-4/0A TPX JT 3" PM30378471 '06
PM30931853 '12
PM30931853 '12 1-350A TPX JT 3"
WO6-1031-A '58 3-4AR 12kV
5894-3967
5915-3952 9-1426-F
5925-3955 SD171E06986
41345476 '10
PM30216314 '04 3-4/0A 12kV
4399 WO6-1780-E 600A
PM30095085 '01 3-4/0A 12kV
6044-3953
PM30095085 '01
PM31310779 '18
GM433142 '66 3-4/0A 12kV
6014-3930 WO116846C
WO116846C '83
WO116846C '83
PM35171612'20 12CL
8650
8658
7102 GM4720017 '89 2-2A XLP 12kV CIC
GM4720017 '89 2-700A & 1-350A XLP 4"
GM4720017 '89 3-4/0A XLP 12kV 6"
GM4720017 '89 1-4/0A TPX 2"
J0640
T4498
T4499
PMslinv
1189
1190
PM31651239 '23 2-4C
WO187110C '83 2-4AR 12kV
WO187110C '83 1-350A XLP 4"
WO187110C '83 2-700 & 1-350A XLP 4"
WO187110C '83 1-4/0 TPX 1"
WO4230140 2-2A XLP 12kV CIC
WO4230140 '81 2-2A XLP 12kV CIC
WO4230140 '81 2-700A & 1-350A JT
WO4230140 '81 2-700A & 1-350A JT 4"
WO4230140 '81 2-715A & 1-350A JT
WO4230140 '81 2-700A & 1-350A JT
WO4230140 '81 3-700 & 1-350A JT 4"
WO4230140 '81 2-2A XLP 12kV CIC
WO4230140 '81 2-700A & 1-350A JT
WO4230140 '81 2-700A & 1-350A JT 4"
WO4230140 '81 2-2A XLP 12kV CIC
WO4230140 '81 2-2A XLP 12kV CIC
WO4230140 '81 2-700A & 1-350A JT 4"
WO4230140 '81 2-2A XLP 12kV CIC
WO4230140 '81 2-2A XLP 12kV CIC
WO4230140 '81 2-2A XLP 12kV CIC

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OVERVIEW MAP

AO122-L04

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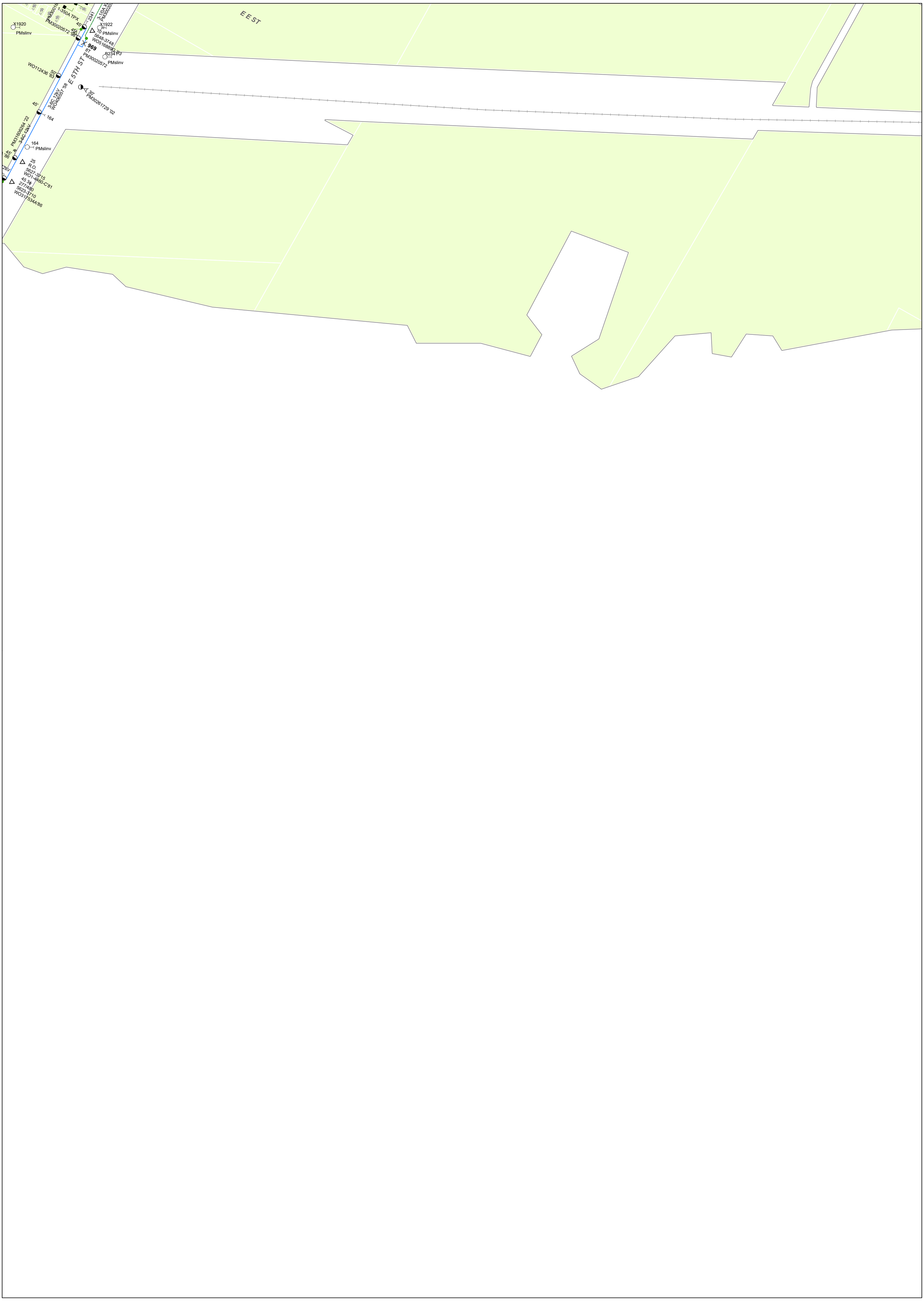
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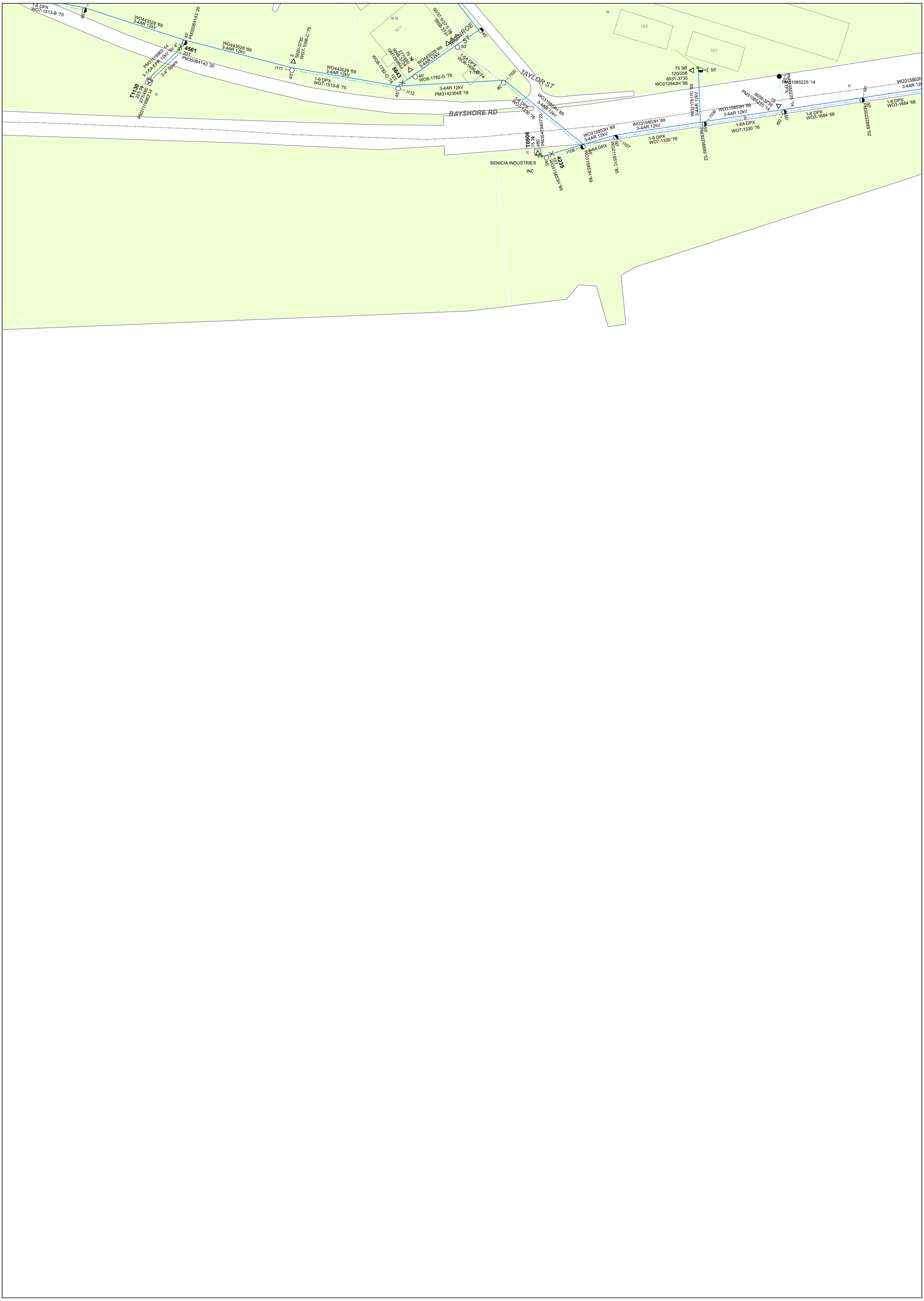
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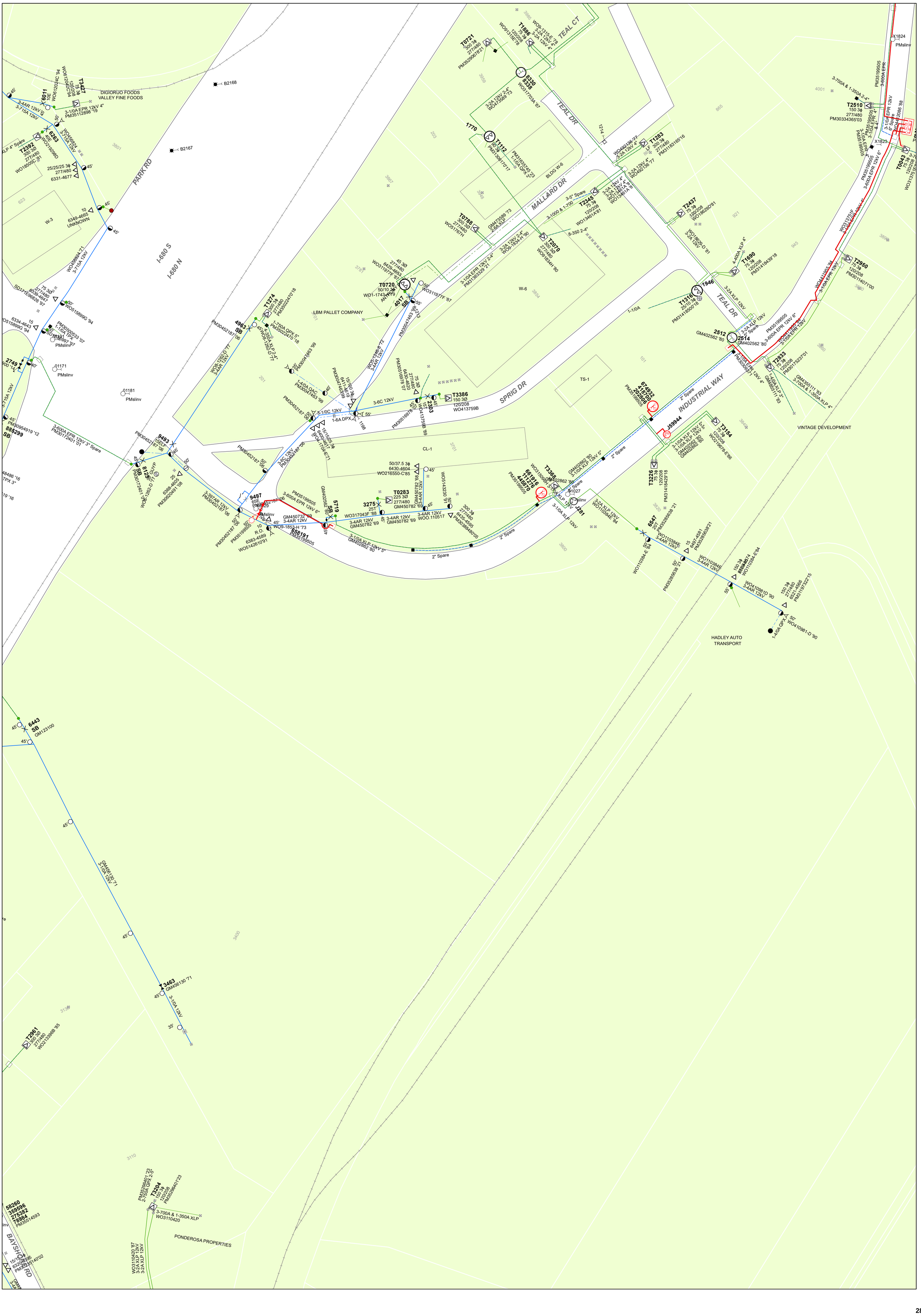
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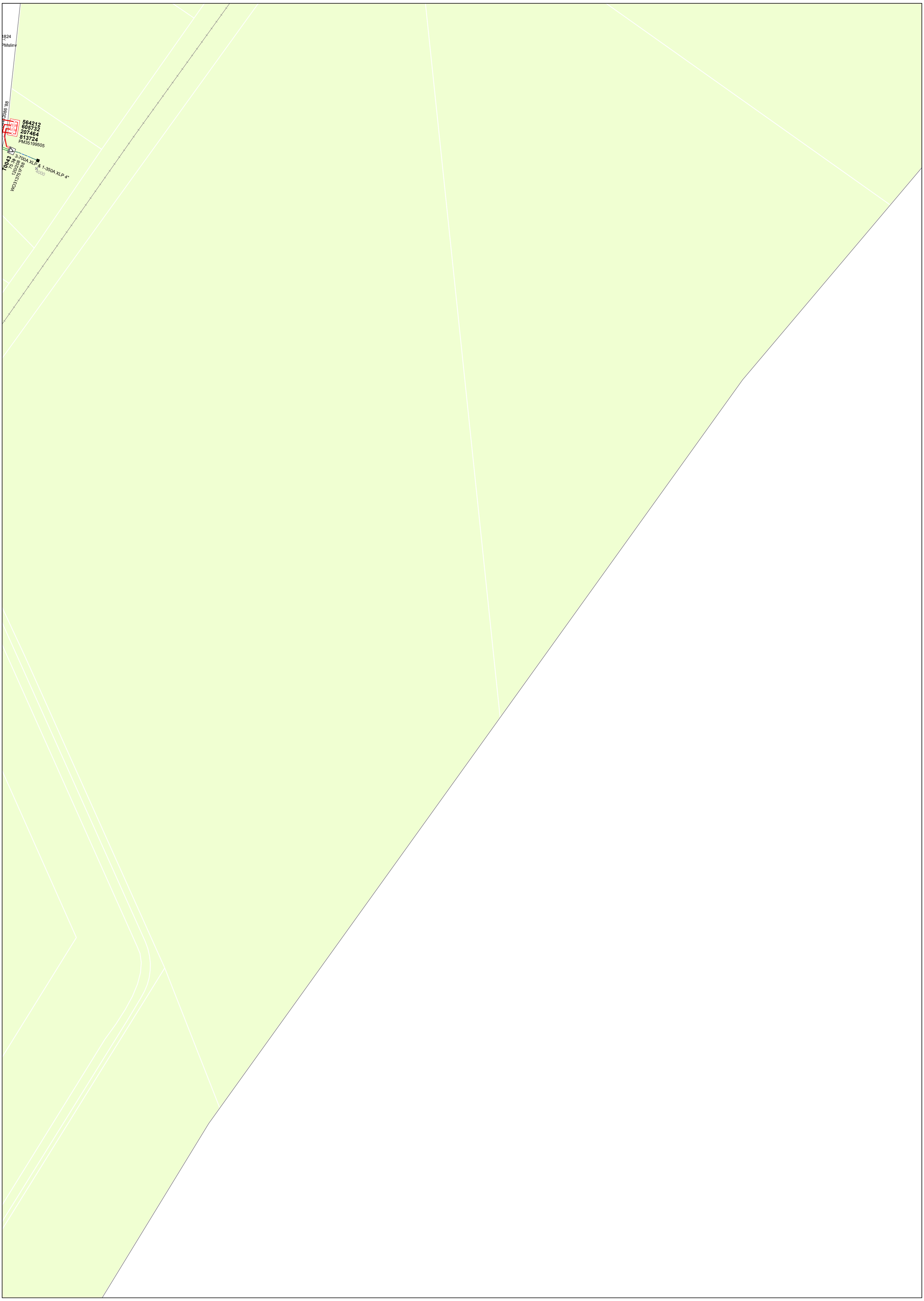
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OVERVIEW MAP

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OVERVIEW MAP

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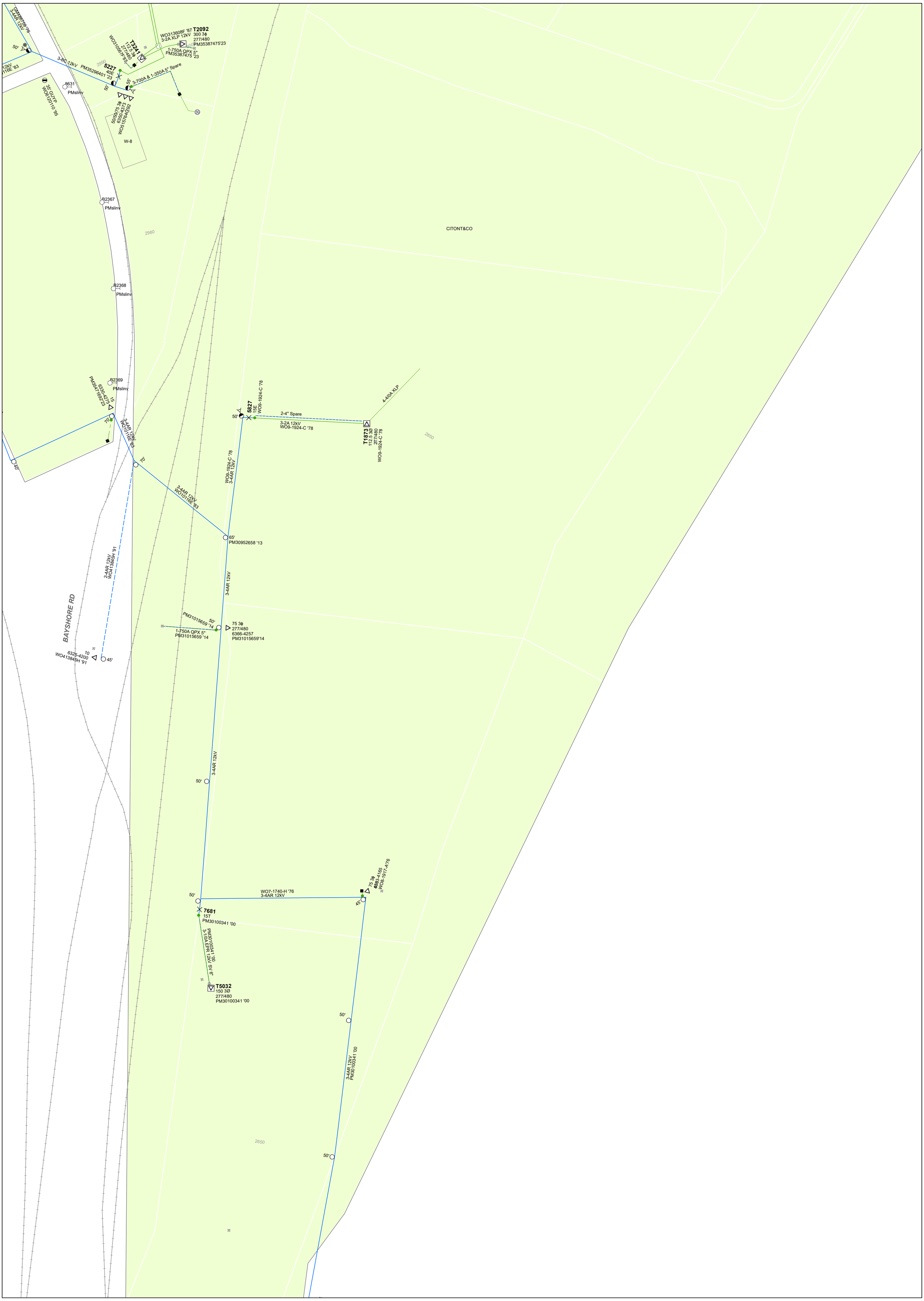
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OVERVIEW MAP

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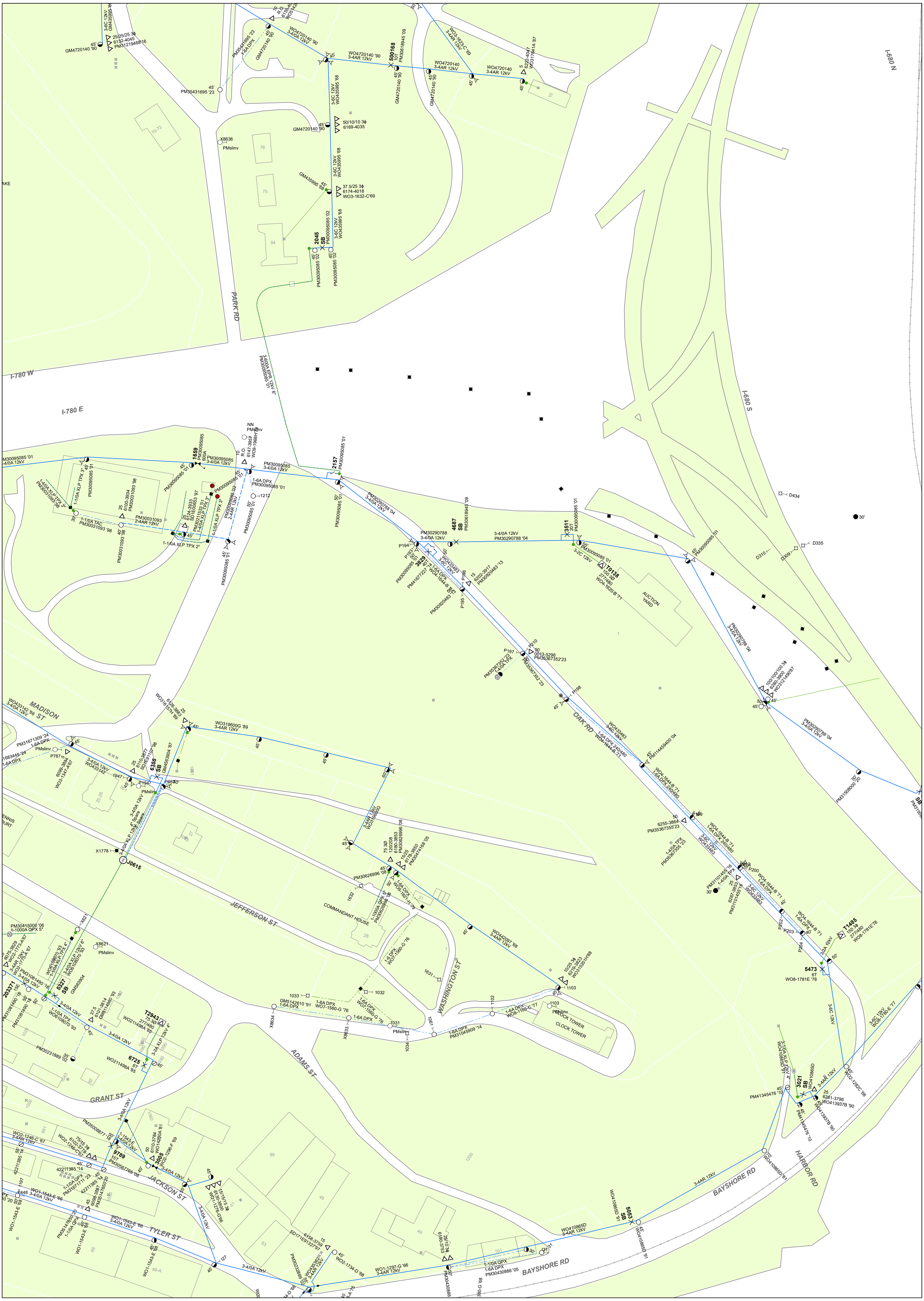
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I-780 W
I-780 E
I-680 N
I-680 S
PARK RD
MADISON ST
JEFFERSON ST
ADAMS ST
GRANT ST
JACKSON ST
TYLER ST
OAK RD
BAYSHORE RD
HARBOR RD
WASHINGTON ST
COMMANDANT HOUSE
CLOCK TOWER
AUCTION YARD
WO4720140 '90 3-4AR 12kV
WO4720140 '90 3-4/0A 12kV
500168 10T PM30618945 '09
WO3-1623-C '68 3-4AR 12kV
WO4720140 3-4AR 12kV
6222-4047 WO3176411A '87
PM35431695 '23 1-6A DPX
GM4720140 '90
3-6C 12kV WO435995 '68
50/10/10 3φ 6169-4035
X8636 PMslinv
GM435995 '68
37.5/25 3φ 6174-4018 WO3-1632-C'69
2045 SB PM30095085 '02
PM30095085 '02
3-600A EPR 12kV PM30095085 '01 6"
1659 PM30095085 600A
PM30095085 3-4/0A 12kV
1-6A DPX PM30095085 '01
PM30095085 2-4AR 12kV
1212
2157 PM30095085 '01
PM30290788 '04 3-4/0A 12kV
4687 SB PM30618945 '09
PM30290788 3-4/0A 12kV
3-4/0A 12kV PM30290788 '04
3511 20T PM30095085 '01
T0138 150 3φ 277/480 WO4-1620-B '71
1-1/0A XLP TPX 3"
1-1/0A TAC PM30031093 '98
PM30031093 2-4AR 12kV
1-1/0A XLP TPX 2"
3829 40T PM41677227 WO4-1644-B '71
1-6A DPX PM30920483 '13
6202-3917 PM30920483 '13
P194
P195
P196
P197
P198
P199
P200
P202
P203
P204
P210
50 0013-5296 PM35367352'23
PM35367352 '23
PM35367752 '23 1-6A TPX
PM30231889 '02
PM31081490 '18
PM31671309 '24 1-6A DPX
PM31683449 '24 1-6A DPX
PM31045909 '14
PM31508000 '20
PM30415000 '06 1-1000A QPX 5"
PM31671711 '23
PM35147650 '20
PM35008877 '18
PM30626996 '08
PM30232889 '02
PM41345476 '10
PM30430886 '05
PM31101455 '16
PM114459400 '04
WO4-1644-B '71 1-6A DPX 240/480
WO4-1644-B '71 1-6A DPX
WO4-1644-B '71 1-6A DPX 240/480
WO4-1644-B '71 1-6A DPX
WO4-1644-B '71 1-6A DPX
WO4-1644-B '71 1-6A DPX

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OVERVIEW MAP

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Appendix B: Benicia Port Area Gas Assets

Gas Symbology

Pacific Gas and Electric Company®

GD GIS
Release Date: 08/26/24

Gas Transmission GT : https://wiki.comp.pge.com/display/GTGIS/Symbology

Controllable Fittings

	Material : Wrought Iron, Steel, Cast Iron, Copper & Unknown	Material : Plastic
Bottom Tap	M	
Bottom Tap TDW	TDW M	
Half Line Stopper	M2	
Half Line Stopper TDW	M2/TDW	
Line Tap / Double Line Tap		
Line Stopper		
Line Stopper TDW	TDW	
Pin-Off Tee		
High Volume Punch Tee / Service Tee		
Punch Tee		
Side Tap	M	
Side Tap TDW	TDW M	
Spherical Tee	SP M	
Spherical Tee TDW	SP/TDW M	
Top Tap	TT M	
Top Tap TDW	TT/TDW M	
Stopple Fitting	SPL	
Stopple Fitting TDW	SPL/TDW	

Regulator Stations:

District Low Pressure High Pressure	Above Ground Indicator: No	Above Ground Indicator: Yes
Reliever Indicator: No	R	R
Reliever Indicator: Yes	R	R

R — No — Above Ground Indicator — Yes — R

System Relief Station

M **Meter Station**

Service Regulation

- Farm Tap Regulator Set
- C Customer Owned Service Regulator

NonControllable Fittings

Trans/Dist		Service
	Branch Saddle	
	Clamp	
	Coupling	
	Cross	
	Elbow	
	End Cap	N/A
	Expansion Loop	
	Flange	
	In-Line Expansion Joint	
	Insulating Joint	
	Mechanical Joint	
	Mechanical Expansion Coupling	
	Mechanical Insulated Transition Coupling	
	Mechanical Transition Coupling	
	Reducer	
	Riser	
	Sleeve	
	Tee	
	Transition	
	Transition Reducer	
	Wedding Band	
	Patch / Half Sole	
	Welded Can	
	Tee Wye	

Gas Valve

Open		Closed
	Valve	
	Insulated	
	Frame & Cover	
	Frame & Cover Insulated	
CAN	Canned Valve	
Left	**Check Valve**	Right
	Flow	
	Flow Insulated	
	Service Excess Flow Valve	

*Bonded or Shorted, Gas Valves or NonControllable Fittings, are represented with '**B**' or '**S**' attached to the original symbol. For e.g.

Bonded		Shorted
B	Mechanical Insulated Transition Coupling	S
B	Frame & Cover Insulated Open Gas Valve	S

Linear Symbology

Service Lines

- Cast Iron
- Copper
- Plastic
- Steel
- Wrought Iron
- Non-Locatable Stub
- Cast Iron, Pre-Posted
- Copper, Pre-Posted
- Plastic, Pre-Posted
- Steel, Pre-Posted
- Wrought Iron, Pre-Posted

Distribution Mains

- High Pressure
- Semi High Pressure
- Low Pressure
- No Gas
- Distribution Main - Aldyl A
- Distribution Main - Pre -1941
- Distribution Main - WOW
- Warranty Survey
- Pre-post, Pre-post

Transmission Mains

- Numbered & Unnumbered
- Pre-Posted

Abandoned Pipeline

Abandoned Pipeline - Split

Vent Line

Pipeline Casing

- No Vents
- One Vent Left
- One Vent Right
- Two Vents

SCADA Devices

- M Auto Meter Reading
- O Remote Control Operation
- C Remote Pipe to Soil
- R Remote Rectifier
- S SCADA Information Only
- T Telemeter

SCADA Line

- Sensing Line

Service Tap

- Branch Saddle
- Bottom Tap
- Coupling
- Cross
- High Volume Punch Tee
- Pin-Off Tee
- Punch Tee
- Reducer
- Service Tap
- Service Tee
- Side Tap
- SP Spherical Tee
- Tee
- TT M Top Tap
- Tee Wye

Aldyl-A Overcap

Service Location - Stub Only

Service Location

- Above Standard Delivery
- M Curb Meter Indicator
- Service Stub End Cap
- Service Cutoff
- Standard
- Gas Lamp

Pipeline Markers

- 4 Aerial
- 3 Aerial Horizontal
- 1 Carsonite
- DM DAS Marker
- EM Electronic Marker
- 1 Orange Post
- 5 River or Bay
- 1 Stake Or Pipe
- DM Surface Adhesive Sticker
- 5 Water Crossing Sign
- 2 WIG-WAG
- DI Disc Indicator
- PD Pavement Decal

Miscellaneous Lines

- Gas Pipe Duct

Foreign Line

- E E Electric
- X X Fences
- F F Fiber
- G G Gas
- O O Other
- T T Telephone
- U U Unknown
- WW W Wastewater
- W W Water
- S S Storm Drain

Miscellaneous Features

- Atmospheric Corrosion
- Blow Off
- Drip
- Foreign Device
- Job Separator
- Odorizer
- Squeeze Point

Miscellaneous Structures

- Foreign Structure
- Above-Ground Regulator
- Co-Located Station
- Vault

Cathodic Protection

Rectifier

- Below Ground
- In Pedestal, Ornamental Cabinet, Thermoelectric Generation
- Pole Mounted, Panel Mounted, Solar

Test Point

- CPR Corrosometer Probe - Above Ground
- CPR Corrosometer Probe - Below Ground
- C Coupon – Above Ground
- C Coupon – Below Ground
- E ETS – Above Ground
- E ETS – Below Ground
- PS Unknown / Casing Vent / Wire
- MP Monitoring Point
- Anode
- Bond
- Junction
- Current Span
- CP Wire
- CP Metal Pipes
- CP Plastic Pipes

Active Leaks

Grade 0	Grade 2
Grade 1	Grade 3
Repaired, Recheck	Active / Unknown

Inactive Leaks

R Repaired — Cancelled/Others

Instruments

- E Electronic Recorder
- P Mechanical Recorder

Conversion Flags

- PAR PAR Flag

Correction Flags

Critical	Unassigned	C1
	Assigned / In Progress	C1
	On Hold	C1
High	Unassigned	C2
	Assigned / In Progress	C2
	On Hold	C2
Medium	Unassigned	C3
	Assigned / In Progress	C3
	On Hold	C3
Low	Unassigned	C4
	Assigned / In Progress	C4
	On Hold	C4

Boundary Features

- Emergency Isolation Zone
- Leak Survey Grid
- Leak Survey Area
- Leak Survey Area - Quarterly
- Therm Billing Area
- Cathodic Protection Area

Pre-Post and Job Polygons

Cancelled	Mapping Complete
Pre-Posted	Operational Change
In Design	Planning
Map Correction	Hard to Locate

Public Assembly

- PA Confirmed
- PA Not Confirmed
- PA Beyond Gas Service Territory

Landbase Layers

Street Name Labels

- TeleAtlas Street Centerlines
- PG&E Temporary Streetnames

- Access Road
- City
- Lot Lines
- PG&E Easement
- PG&E Right Of Way
- Private Road
- Railways
- Stream
- Water Polygon
- PG&E Access Notes

VMS Alerts

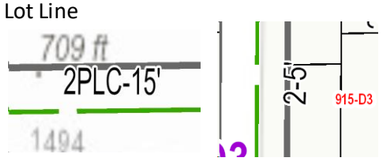
- Customer
- Customer, Help
- Help
- Safety
- Safety, Customer
- Safety, Customer, Help
- Safety, Help

*These layers are just a representation of some of the Landbase layers.

Abandoned Pipe Label

Label Name (Layer Name)	Label Shows	Example
InsertLabel (Abandoned Service Pipe-Inserted)	Diameter + Material--when material is not steel--of abandoned pipe in which hot pipe is inserted	(3/4)

Distance Note Labels

Label Name (Layer Name)	Label Shows
DistNoteArrowLabel (Distance Note Arrow) AbandonedDistNoteArrowLabel (Abandoned Distance Note Arrow)	1) Dimension Text showing distances between gas assets and landbase features Example: 
DistNoteLabel (DistNoteLabel) AbandonedDistNoteLabel (AbandonedDistNoteLabel)	or 2) Distribution Main information given in TextString -All Material except Steel: Diameter + Material + Offset from Lot Line -Steel Main: Diameter + Coating Type (see list) + Offset from Lot Line Examples: 

Coating Type Abbreviations	
Asphalt	ASP
Bare	Bare
Coal Tar	CT
Cold Applied Tape	CAT
Concrete	CONC
Double Wrapped	DW
Fusion Bond Epoxy	FBE
Hot Applied Tape	HAT
Plastic Coated	PLC
Paint	PNT
Somastic	SOM
Triple Wrapped	TW
X-Tru-Coat	XTR

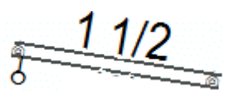
Distribution Main Labels

Label Name (Layer Name)	Label Shows	Example
DistMainJTLabel (Distribution Main)	"JT" when Joint Trench Indicator = Yes	(JT)
DistMainWOWLabel (Distribution Main)	"WOW" when Locating Wire Indicator = No	(WOW)

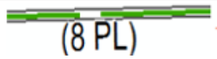
Service Labels

Label Name (Layer Name)	Label Shows	Example
ServiceJTLabel (Service)	"JT" when Joint Trench Indicator = Yes	(JT)
AddressLabel (Service Location)	House Address + # Building / Apartment	101 # 1
ServiceWOWLabel (Service)	"WOW" when Locating Wire Indicator = No	(WOW)
ServiceLabel (Service) ServiceLabel Branch (Service)	Diameter + Material--when material is not steel-- + Installed Completion Year	1/2 PL 2005
ServiceOrderLabel (Service)	Service Order Number	310218

Vent Labels

Label Name (Layer Name)	Label Shows	Example
ServiceVentLabel (Gas Casing Service) DistVentLabel (Gas Casing Distribution)	Vent Size	1 1/2" 
ServiceVentLineLabel (Service Vent Line) DistVentLineLabel (Distribtion Vent Line)	Vent Diameter	2" 

Miscellaneous Labels

Label Name (Layer Name)	Label Shows	Example
Default Label (Distribution Main, Service, all Abandoned Pipe layers)	Asbestos Detected Indicator = Yes	
BlowOffLabel (Blow-Off)	Pipe Size	2
ServiceCasingLabel (Gas Casing Service) DistCasingLabel (Gas Casing Distribution)	Casing Diameter + Material, when material is not steel	
CPRectifierLabel (CP Rectifier)	Rectifier Number	
DuctLabel (Gas Pipe Duct)	Duct Diameter + Material, when material is not steel	(2 PL)
MiscGasLabel (MiscGasLabel)	Important notes in TextString about gas facilities	
MiscGasLabel-Location Accuracy (MiscGasLabel-Location Accuracy)	Red asterisks in TextString represent facilities mapped to scale	

Regulator Station Labels

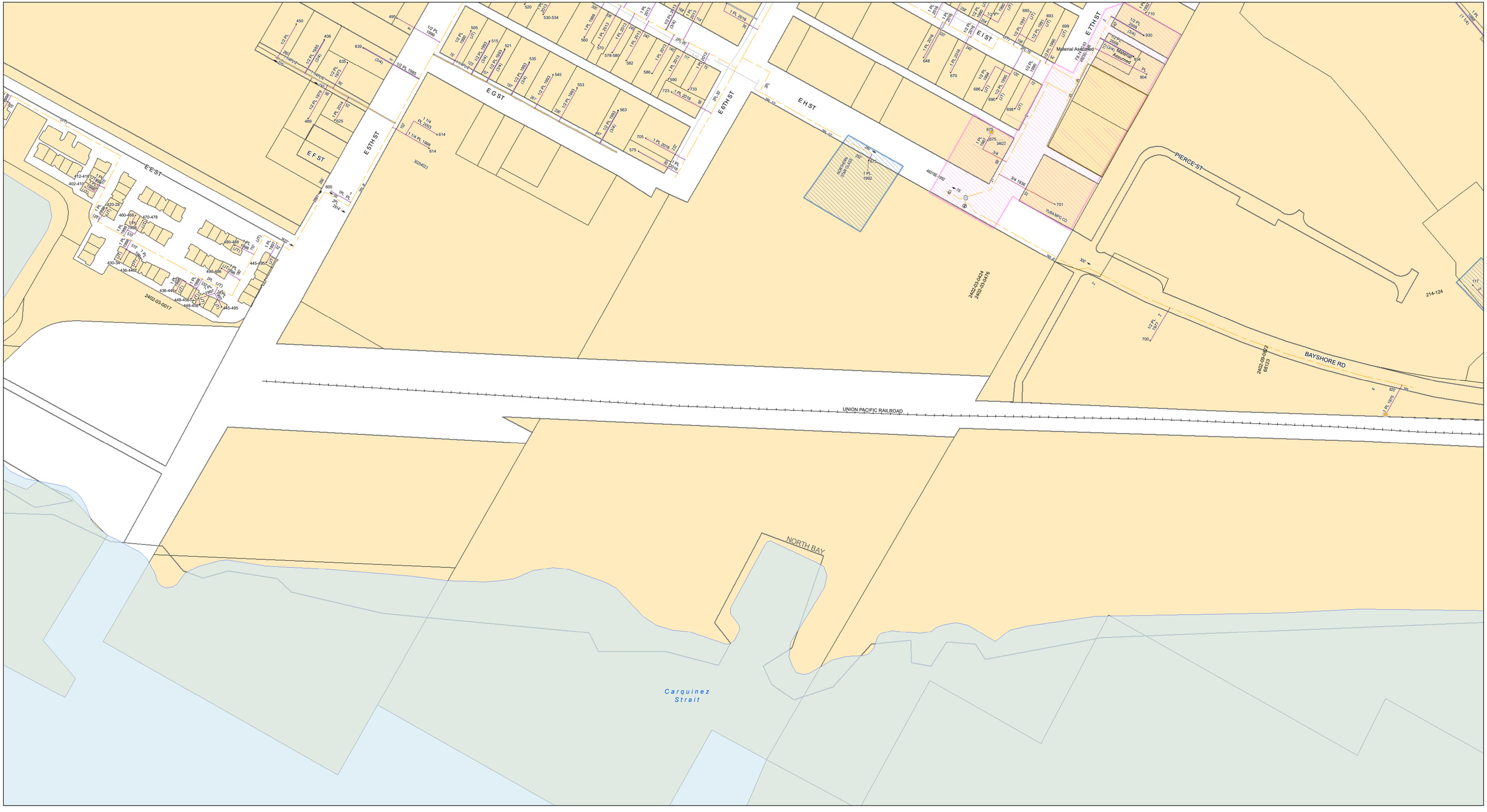
Label Name (Layer Name)	Label Shows	Example
FarmTapMAOPLabel (Service Regulation)	Inlet MAOP + Outlet MAOP	
RegulatorStationLabel (Regulator Station)	Regulator Station Type abbreviated + FMID	DR 6
RegulatorStationMAOPLabel (Regulator Station)	Inlet MAOP + Outlet MAOP	

Valve Labels

Label Name (Layer Name)	Label Shows	Example
CurbValveNumLabel (Gas Valve-Service) FTAPInletFireValveLabel (Gas Valve-Service) DistValveNumLabel (Gas Valve-Distribution) TransValveNumLabel (Gas Valve-Transmission)	TechID valve number	

WIP Cloud (Pre-Post Polygon) Labels

Label Name (Layer Name)	Label Shows	Example
WIPCLoudLabel (WIP Cloud)	Job Order + Work Description +Energized Date (when populated) + CAP Number (when populated) + Abandoned Date (when populated)	41416758 RELOC MAIN CAP# 117049533



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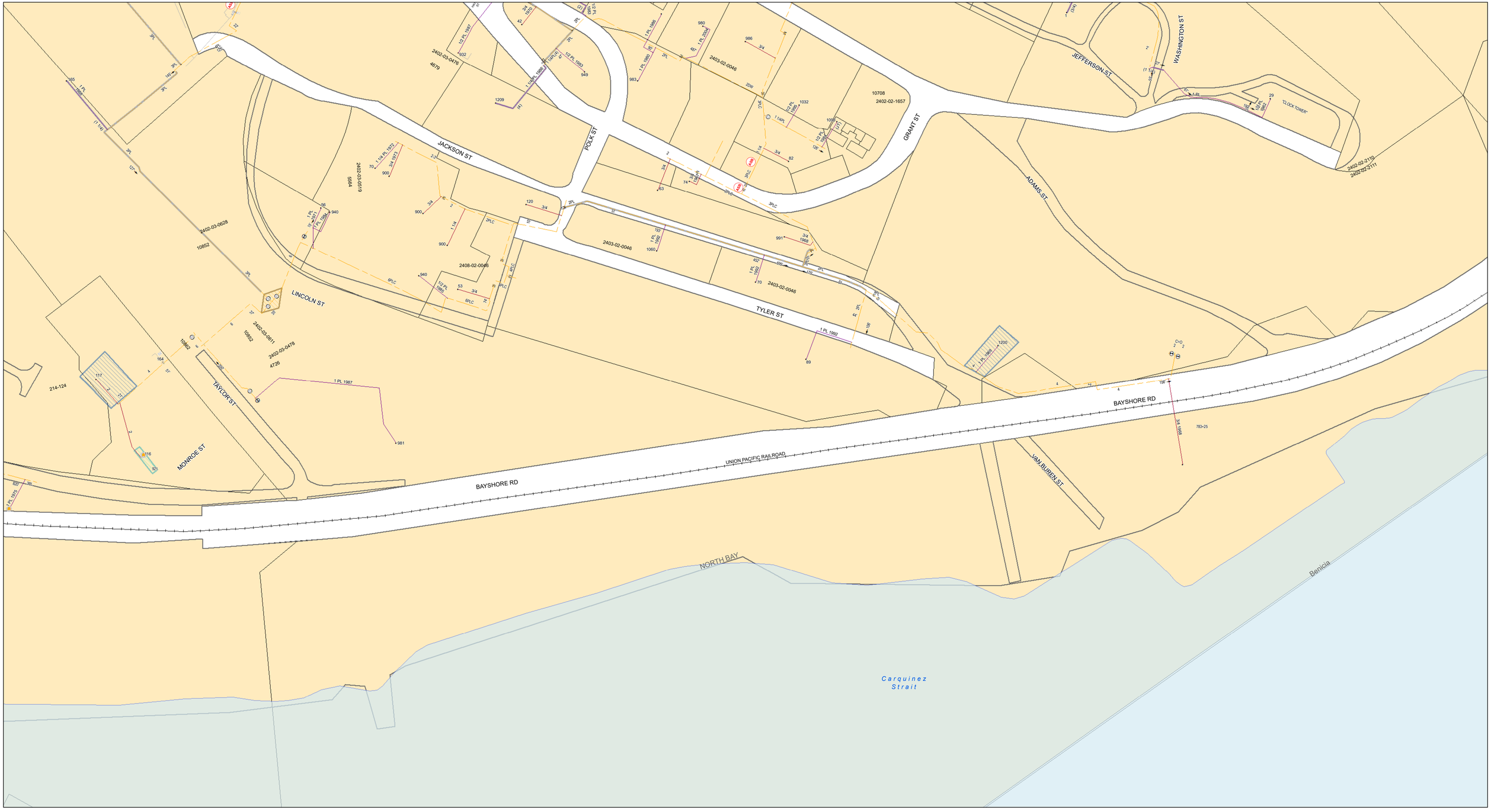
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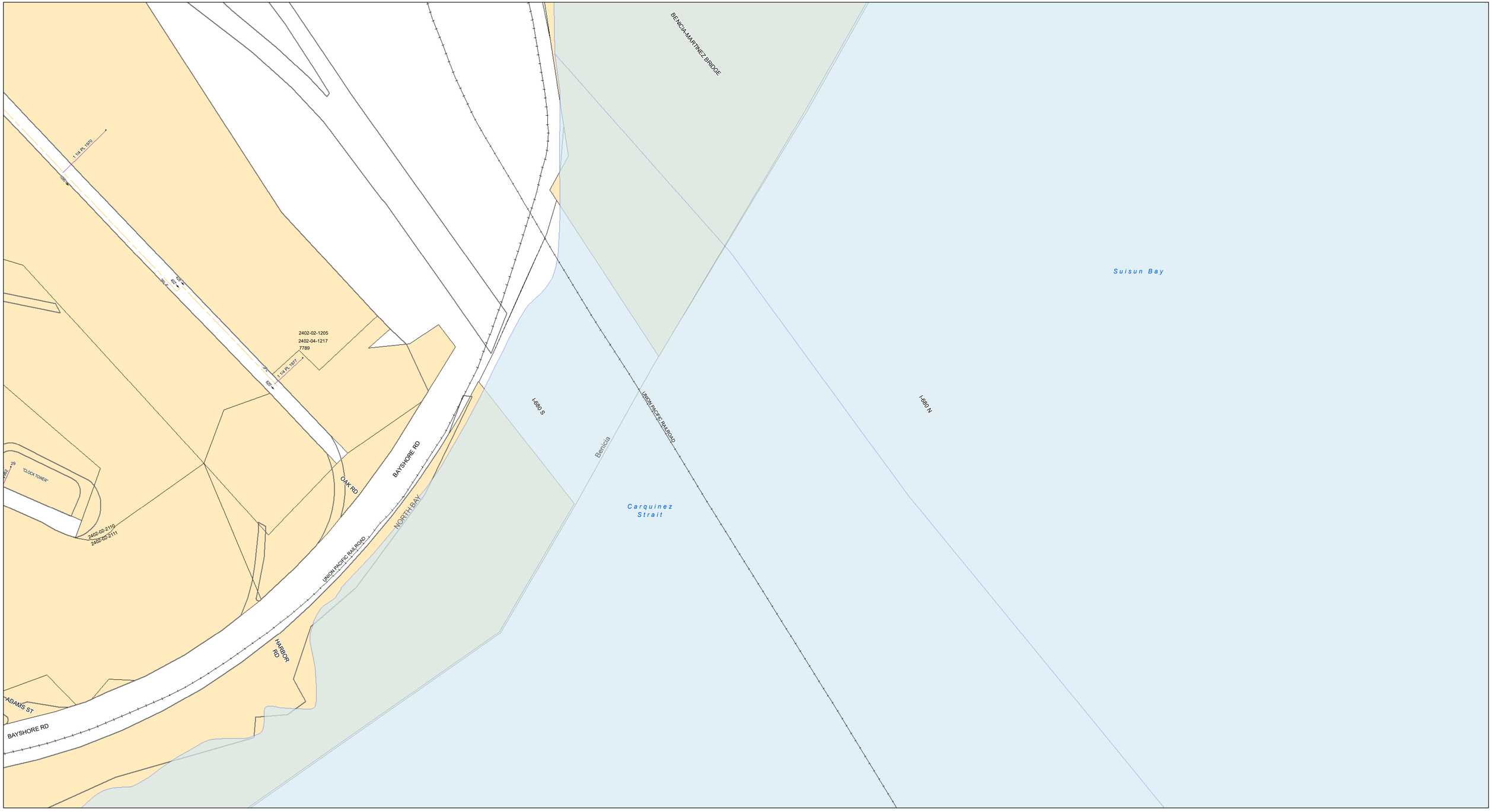
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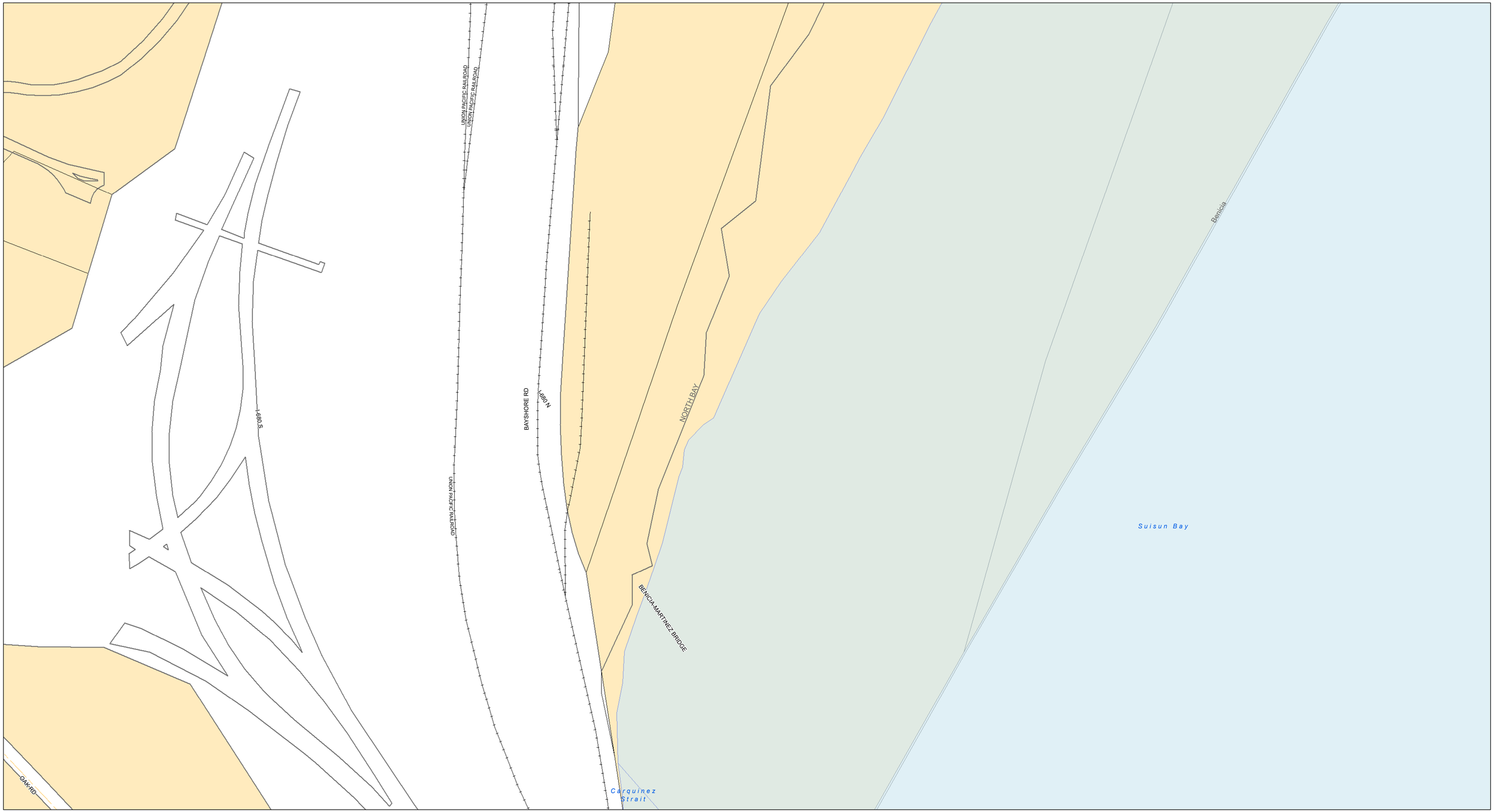
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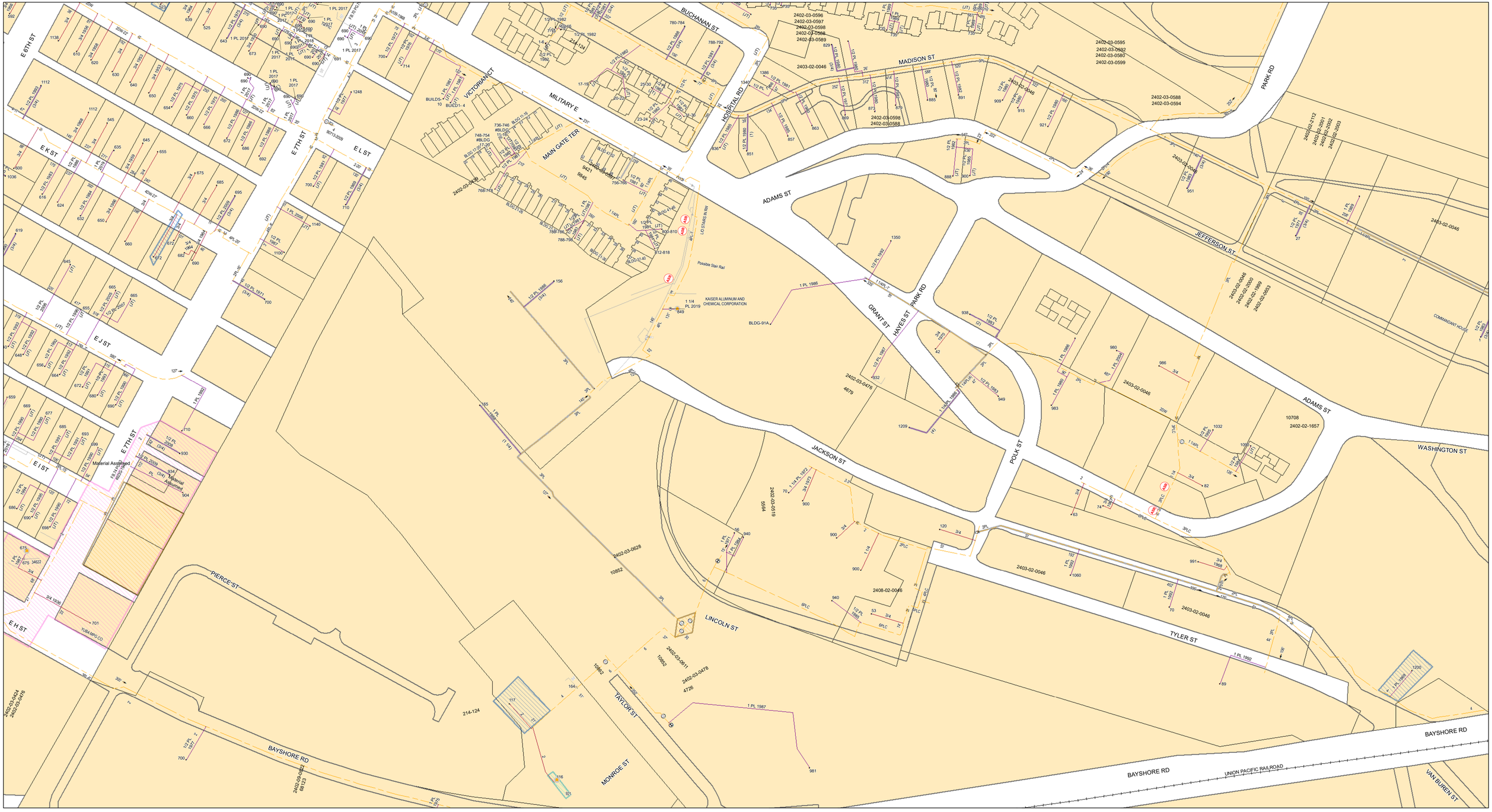
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Pine Lake

I-780 W

I-780 E

2402-03-0688

2402-02-2116

2402-02-2115

1/2 PL 1984 (1 1/4)

PARK RD

MADISON ST

JEFFERSON ST

ADAMS ST

GRANT ST

POLK ST

WASHINGTON ST

COMMANDANT HOUSE

OAK RD

I-680 S

I-680 N

BENICIA-MARTINEZ BRIDGE

NORTH BAY

BAYSHORE RD

UNION PACIFIC RAILROAD

Suisun Bay

Carquinez Strait

Benicia

2402-03-0595
2402-03-0592
2402-03-0580
2402-03-0599

2402-03-0588
2402-03-0594

2403-02-0046

2402-02-2112
2402-02-2001
2402-02-2002
2402-02-2003

2402-02-0046
2402-02-2000
2402-02-1999
2402-02-0653

2402-02-1087
4520

2402-02-1205
2402-04-1217
7789

10708
2402-02-1657

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Appendix C: Benicia Port Area Wastewater/ Sewer and Storm Drain Assets

Port Utility Conditions Assessment

Sewer - Collections:

1. Bayshore RD: 2 Force Mains

-8” Ductile Iron Pipe

-Section of 8” FM lined from H St. to Suba Mfg.

-12”/14” ‘93/’94 new PVC pipe installed with crossovers to existing 8”, D.I.P. “tee’s” and valves

-6500’ new 14” PVC installed around ‘93/’94 from Adams St to East H St. and 8500’ of pipe rehabilitation to 12” force main, including new ARV’s, Clean outs, and tie-ins to 8” force main. Per “As-Built Drawings Phase 2 Improvement Plans for East 6th/ H Street, Bayshore Rd/ Park Rd Sanitary Sewer Project Job #N005791 (full descriptions in project general and constructions notes on Sheet 2)

-New 14” valve installed in front of 700 Bayshore Rd. (Toyota Building) June 2022

-New 14” valve, Tee and crossover installed in front of 700 Bayshore Rd. (Toyota Building) in August 2022.

2. Jackson Street Sewer:

- 10” sewer main that runs down Jackson St, North of Suba Mfg., 921 Bayshore Rd., and ties into sewer main at 711 Jackson St., is part of a routine maintenance cleaning quarterly. The issue is due to a belly in the line.

3. East H Street- E 6th Street sewer to WWTP: 180’ of new 24” gravity main installed in beginning of 2023 on East H St. @ East 7th St.

4. Oak Rd.: 6” Main

-Back-to-backs (i.e., cleanouts installed next to each other on main line) installed west of 51 Oak Rd. Numerous overflow issues in 2023/24 due to possible partial blockage in line from debris from manhole collapse at Park and Industrial. Debris eventually cleared the line.

Water - Distribution:

Bayshore Rd: 8” ductile iron water main from Benicia/Martinez Bridge to 700’ West of Adams St. 12”, 14”, and 8” throughout the Port.

-2017 Lower Arsenal Water main improvement project:

-Tied in 12” water main from Adams St. to Bayshore Rd. Installed roughly 375’ new 12” PVC water main.

-Abandoned 14” and 6” water mains that connected Adams St. to Grant St. through the property at 1200 Adams St.

Known Issues (water):

There have been a number of water main breaks throughout Port property. Typically, due to Ductile Iron Pipe deteriorating from loss of coating and pipe wrap. Bay ground water, mixed with “hot soils cause severe pitting and corrosion on D.I.P.

Water mains suspended under the Port of Benicia Peir have had leaks, but AMPORTS has repaired them.

There have been numerous valve issues. Valves do not work well throughout the Port. Corrosion caused by bay water from the valves cause them to not to operate well or at all.

Storm Drains:

The City of Benicia maintains storm drains that flow to the Port properties and those drains are cleared of debris annually. City Operations Crews visually inspect each storm drain prior to the rainy season and monitors throughout. City Operations have done repairs to small sections of storm drains when an issue was discovered and inspected. Storm drains/pump stations on AMPORTS properties including outfalls to Carquinez Straits are maintained by AMPORTS.

BAYSHORE ROAD

8"W 12"SS 14"SSFM

8"W 12"SS 14"FM

12"SS

700

12"SD

36"SD ACTIVE

OUTFALL

OUTFALL

N

BENICIA CITY LIMITS

CARQUINEZ STRAIT

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BUCHANAN STREET
OLD BENICIA ARSENAL
VICTORIAN VILLAGE 40-90
VILLAGE LN.
HOSPITAL
JEFFERSON STREET
HAYES ST
STREET
ADAMS STREET
WASHINGTON STREET
GRANT
POLK STREET
JACKSON
LINCOLN
TYLER
1050 – 1080 STREET
711 – 750
GUARD HOUSE
HISTORICAL PARK
MAIN GATE 40-55
GRADING (P-784)
ROAD
RAILROAD
WHARF LIFT STATION
PRIVATE LIFT STATION
RECIRCULATING PIT
BORE PIT
ABANDONED 1880
ABAND. PUMP HOUSE
SDMH W/ OK VALVE
VAULT 13
VAULT 11
ADJACENT 10"SS ABANDONED
PACIFIC
SOUTHERN
BAYSHORE
PORT OF BENICIA WHARF
BENICIA CITY LIMITS
OUTFALL
POT.
R/LS

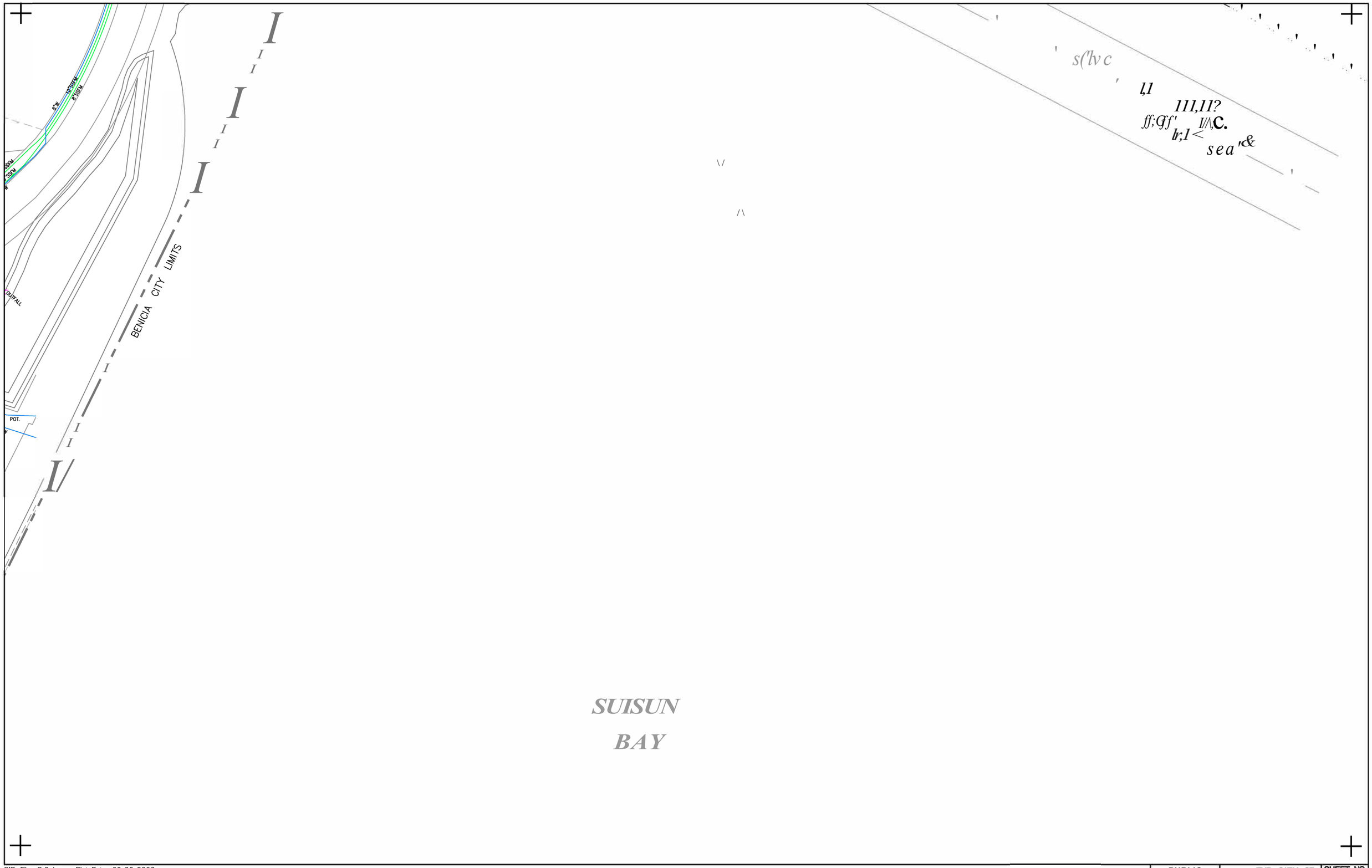
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THE CITY OF BENICIA CALIFORNIA

SHEET C 307



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PUBLIC WORKS DEPARTMENT

THE CITY OF BENICIA

SHEET 308

ROAD

201S

201S

201S

201S

201S

8"SSFM

12"SSFM

6"SS

10"W

ROAD

BAYSHORE

BENICIA – MARTINEZ BRIDGE

HIGHWAY 680

CITY LIMITS

N

SUISUN

BAY

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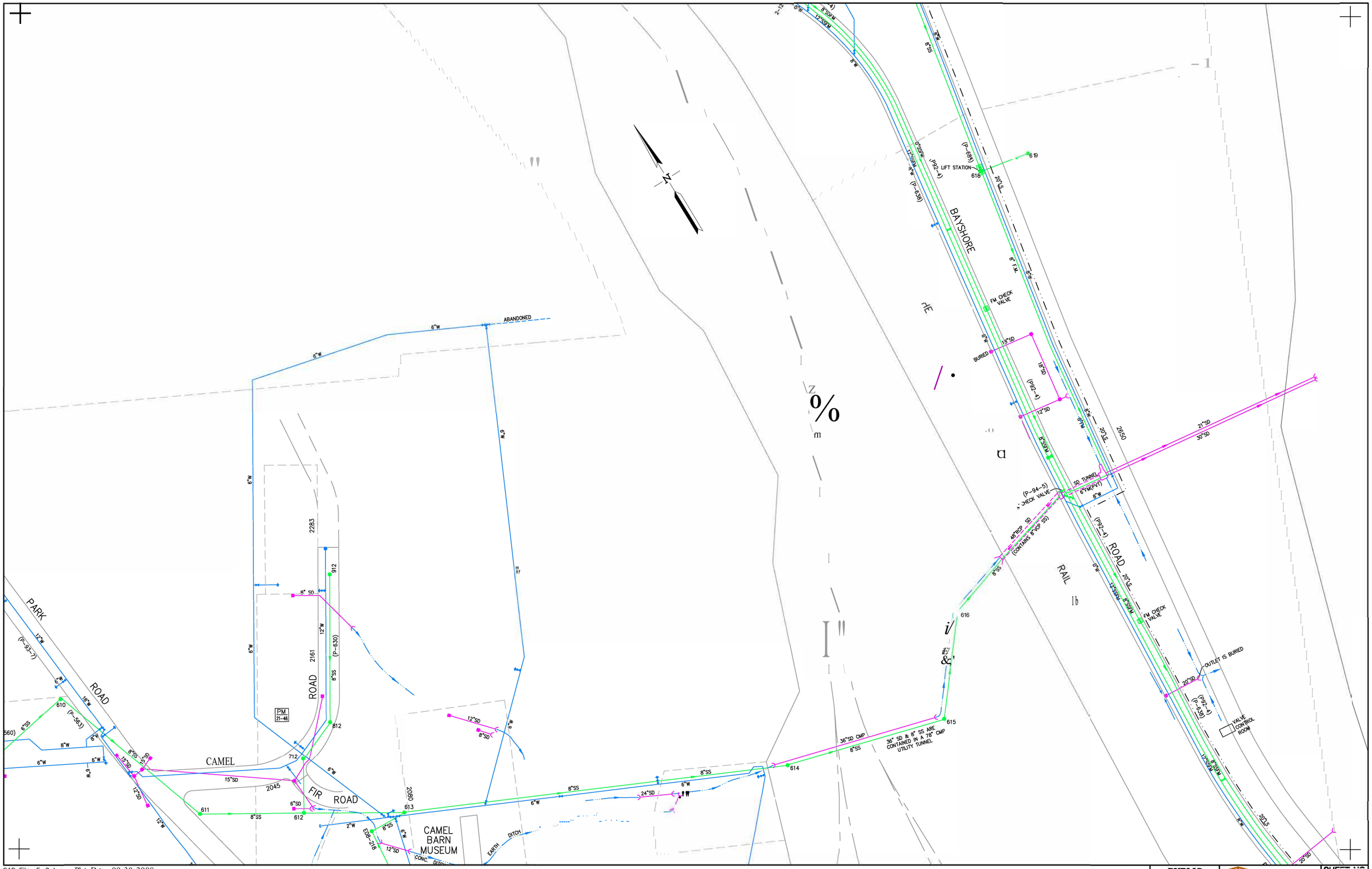
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THE CITY OF BENICIA

SHEET NO. 309



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PUBLIC WORKS DEPARTMENT

THE CITY OF BENICIA CALIFORNIA

SHEET E-310

Port of Benicia

Facilities and Infrastructure Modernization

Deliverable 2

Port Demand, Capacity and Circulation/ Transportation Analysis

September 12, 2025



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Appendices

Appendix A: 2025 OSW Executive Order

Appendix B: Wind Energy Market Analysis

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Executive Summary

Introduction

The City of Benicia was awarded a $750,000 grant for the Port of Benicia Facilities and Infrastructure Modernization plan by the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG). The GHD team was hired by the City in November, 2024, to develop this plan. Task 2 of this plan entails completing a port demand, capacity and circulation/ transportation analysis. The findings from this analysis will serve as an input to the Capital Improvement Plan (CIP) developed during Task 4 of the plan.

A list of all tasks associated with this Modernization plan is included below:

- Task 1: Infrastructure Assessment
- Task 2: Port Demand, Capacity and Circulation /Transportation Analysis
- Task 3: Decarbonization and Resiliency Pathways
- Task 4: CIP and Yard Expansion Feasibility Analysis
- Task 5: Update and Modernize Industrial Design Guidelines
- Task 6: Environmental Review
- Task 7: Draft and Final Plan
- Task 8: Plan Activation and Funding Support
- Task 9: Ongoing Funding Support (optional)

The findings from this infrastructure assessment will serve as an input to the Capital Improvement Plan (CIP) developed during Task 4 of the plan.

Asset Inventory

Given that most of the land comprising the port is owned by AMPORTS, and that AMPORTS currently serves as the port operator in Benicia, operations on port land are largely outside the purview of the City except as relates to allowed uses and other compliance matters driven by federal/state and local laws. This dynamic, along with the age and lack of historical documentation related to port assets has constrained the ability of the GHD team to collect some of the core asset data that would ordinarily be included in an infrastructure assessment due to lack of visibility into some of the assets owned and/or operated by AMPORTS.

In light of this dynamic, the focus of the asset inventory below is largely limited to public infrastructure serving the port as well as private property that impacts or influences this public infrastructure. Such infrastructure includes, but is not limited to:

- The main pier structure serving the port
- The deep-water berths adjacent to the pier structure (dredged to -38 feet)
- Road and rail networks serving the port, including key intersections/grade crossings
- Above-ground and below-ground utility infrastructure serving the port, including both electrical and mechanical systems

Neither Valero's deep-water liquid bulk berth/operations nor any of the upland assets owned and managed by Valero in support of their Valero Benicia refinery operations are included in the scope of this Modernization plan due to the fact that they are privately owned, operated and maintained. Tidelands areas that are currently leased to AMPORTS,

including those that are subleased to Valero by AMPORTS, are included. The levee currently protecting low-lying areas of the port will be assessed separately as part of Task 3 of this Modernization plan.

Demand vs. Capacity – Existing Commodities

Demand forecasts establish the current and potential future unconstrained demand for the port's two core commodities – petroleum coke (coke) and roll-on/roll-off (ro-ro) cargo – in order to assess the gap between current and future capacity needs based on this future demand.

Demand Forecasts

Based on the historical data and regional-level cargo flow for oil products and motorized vehicles, this section estimates growth at the port through 2050 under three scenarios – low, moderate, and high. This approach aligns with the U.S. Department of Transportation (USDOT) Bureau of Transportation Statistics and the Federal Highway Administration (FHA) Freight Analysis Framework Version 5.6 (FAF 5.6), as well as the San Francisco Bay Conservation and Development Commission (BCDC) 2019-2050 Bay Area Seaport Forecast report low, baseline, and high forecast scenarios, respectively. Such alignment is important and relevant to this Modernization plan because Port of Benicia commodity flows and future activity potential is being assessed in the context of other opportunities within the same region (i.e. Bay Area).

- Petroleum Coke

  Coke, also referred to as petcoke, is a carbon-rich solid material produced as a byproduct of the oil refining process. There are two Bay Area ports handling coke: Levin-Richmond and Benicia. Levin-Richmond is a privately-owned single-purpose facility. Coke handled at Port of Benicia is primarily a byproduct of Valero's refining operations in the City of Benicia. The Levin-Richmond terminal is scheduled to phase out petroleum coke storage and handling by the end of 2026, after which the Port of Benicia will be the only port in the region handling coke export, assuming the Valero Benicia refinery remains operational.[1] As shown in Figure ES1, in 2018 Benicia handled about 295,000 tons of coke. However, petroleum coke tonnage is estimated to have declined until 2023, after which point it has mostly stabilized.

  Projections for future coke export volumes at the Port of Benicia are tied directly and proportionately to the Valero Benicia refinery and its level of activity. As a crude oil refining byproduct that is sold as a commodity to third-party industrial production facilities worldwide, the supply of coke exports through the Port of Benicia will always be a more-or-less linear function of the volume of crude oil refined in Benicia.

  The future coke volume projections shown in Figure ES1 and Table ES1 assume that Valero's refining operations in Benicia will remain relatively constant through the year 2050 with only minor year-over-year fluctuations. Accordingly, both the moderate and high forecasts indicate positive growth compared to 2023, though not compared to 2019, which serves as the baseline year for analysis. None of the three forecasts anticipate the Port of Benicia's coke export volumes ever again equaling the historic peak volumes reached between 2015 and 2016, however, given the general decrease in fossil fuel consumption expected within California going forward.

  If refining activity in Benicia increases, the volume of coke available to export will also increase. If refining activity in Benicia curtails or ceases altogether, then the volume of coke available to export through the Port of Benicia will also decrease (or disappear) accordingly.

[1] https://www.ci.richmond.ca.us/DocumentCenter/View/59376/2021-11-12-Press-release_Coal-and-petcoke-ordinance-lawsuit-settlement.

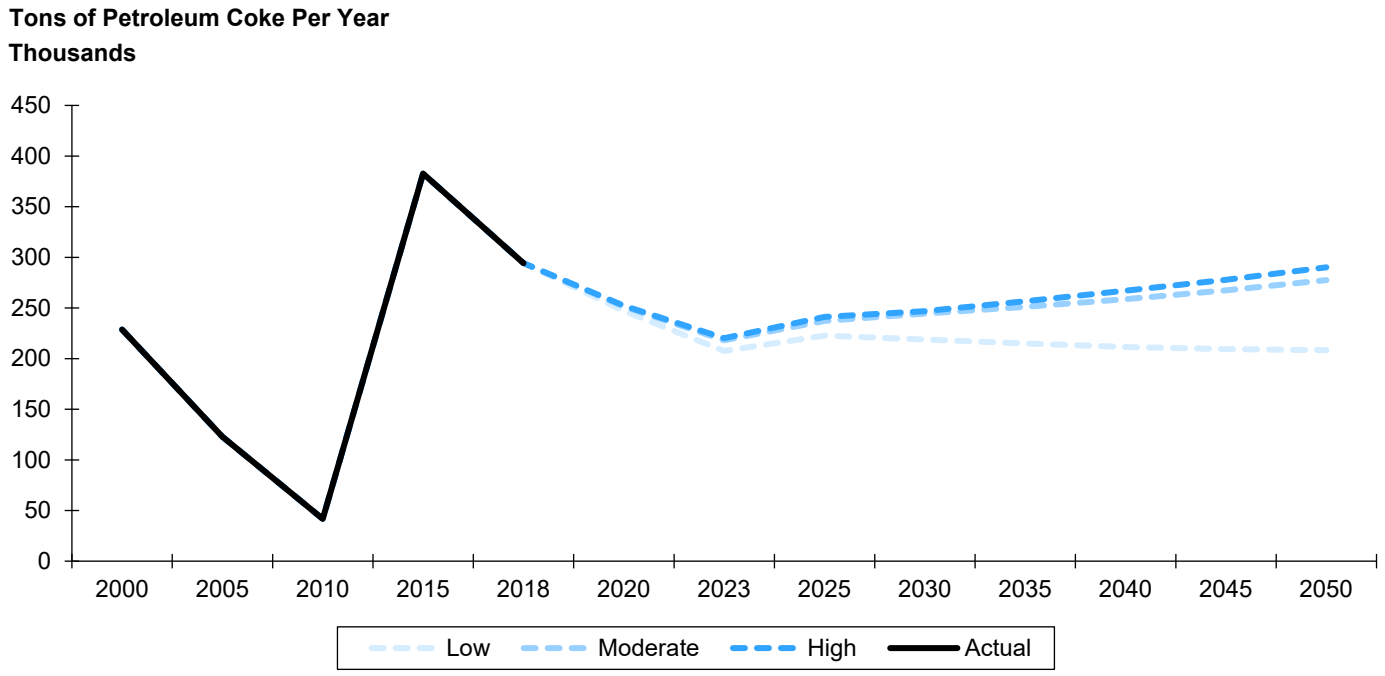


Figure ES1: Historic and Future Volumes of Petroleum Coke (source: 2019-2050 Bay Area Seaport Forecast; FAF 5.6; Forecast conducted by Cambridge Systematics, Inc.)

Table ES1: Estimates of Historic and Future Volumes, Vessel Visits of Petroleum Coke

Year	Low (tonnage)	Low (vessels)	Moderate (tonnage)	Moderate (vessels)	High (tonnage)	High (vessels)
2019	313,486	15	315,645	15	316,077	15
2023	207,570	10	218,046	10	220,218	11
2030	221,931	11	247,701	12	250,923	12
2040	214,840	10	262,439	12	271,833	13
2050	212,043	10	281,855	13	295,760	14
Percent Growth (2019—2050)	-32%	-33%	-12%	-13%	-8%	-7%
CAGR (2019—2050)	-1.3%	-1.3%	-0.4%	-0.5%	-0.3%	-0.2%

Source: 2019-2050 Bay Area Seaport Forecast; FAF 5.6; Forecast conducted by Cambridge Systematics, Inc.

- Ro-Ro Cargo

  Ro-ro cargo consists of marine cargo that is loaded/unloaded from a vessel on wheels, and includes both towed cargo (i.e. materials/products mounted on wheeled chassis) and self-powered cargo (i.e. automobiles). Projections for ro-ro cargo at the Port of Benicia all show continued increases (see Figure ES2). 2050 volumes are forecast to be between 327,000 and 362,000 vehicles per year. This is in line with the growth seen from 2010-2024. With an average vehicle capacity per ship at the port of 1,292 vehicles, the number of vessels needed for these volumes in 2050 ranges from 254 to 280 ships per year, as seen in Table ES2.

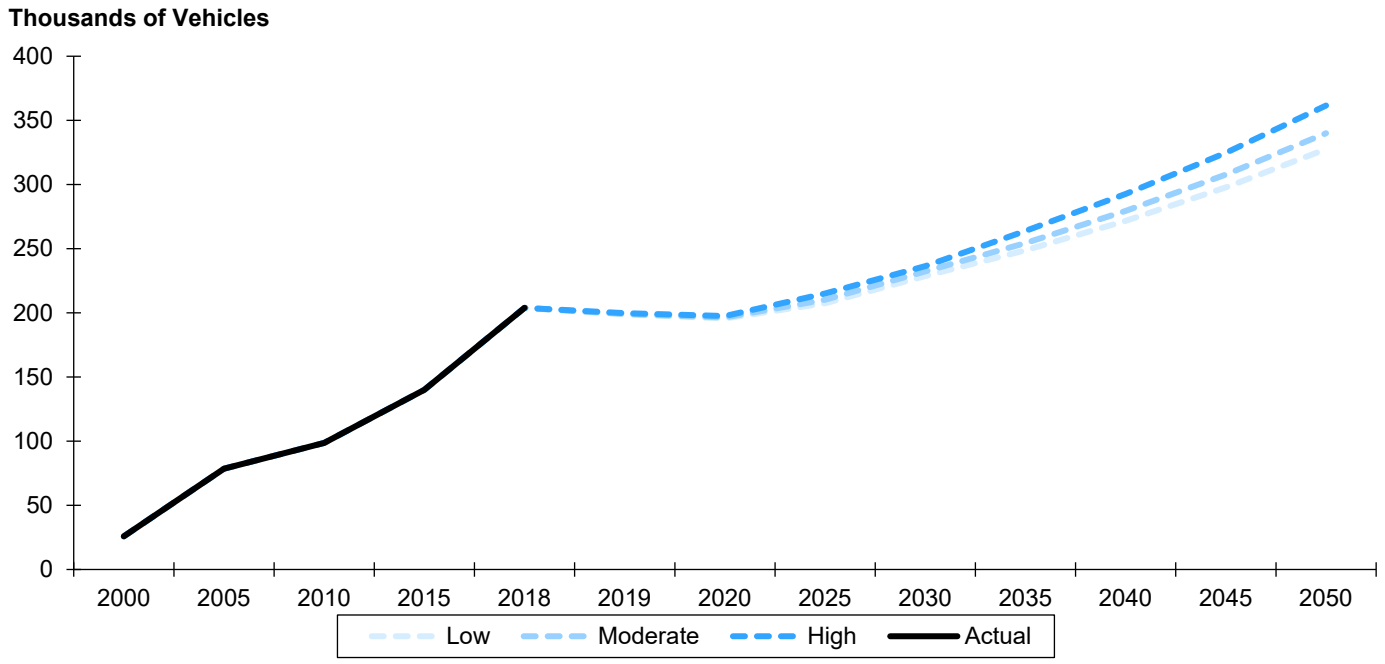


Figure ES2: Historic and Future Volumes of Ro-Ro Cargo (source: 2019-2050 Bay Area Seaport Forecast; FAF 5.6; Forecast conducted by Cambridge Systematics, Inc.)

Table ES2: Estimates of Historic and Future Volumes, Vessel Visits of Ro-Ro Cargo

Year	Low (vehicles)	Low (vessels)	Moderate (vehicles)	Moderate (vessels)	High (vehicles)	High (vessels)
2019	198,863	154	199,198	155	199,765	155
2023	222,207	173	223,931	174	226,911	176
2030	230,370	179	230,172	179	243,142	189
2040	273,903	213	276,631	215	301,507	234
2050	330,469	256	336,318	261	373,112	289
Percent Growth (2019—2050)	66%	66%	69%	68%	87%	86%
CAGR (2019—2050)	1.0%	1.0%	1.0%	1.0%	1.2%	1.2%

Source: 2019-2050 Bay Area Seaport Forecast; FAF 5.6; Forecast conducted by Cambridge Systematics, Inc.

Demand vs. Capacity

After comparing demand projections to estimated capacity at the Port of Benicia, it is assumed that the port will have sufficient capacity to meet projected demand for coke exports. For ro-ro imports, however, there is potential for demand to outpace the port's ability to handle the increased volume. Available vessel berth windows (i.e. berth capacity) might be limited by 2040; available landside space to store offloaded vehicles is already becoming a limiting factor from time to time (under current storage densities), but this constraint will almost certainly intensify by the 2040s, when all three demand forecasts exceed the capacity even under the densest storage strategy. To adequately meet demand for ro-ro cargo in the near term, the port needs to expand landside capacity or utilize denser storage strategies (primarily done by handling smaller vehicles or reducing on-terminal dwell times). In the long term, the port will need to implement those strategies along with adding more berthing windows, either by adding a vessel berth or by decreasing the dwell time of vessels at berth.

Wind Energy Support

California Offshore Wind Targets

California's 100 Percent Clean Energy Act of 2018 (SB 100) requires that eligible renewable energy resources and zero-carbon resources supply 100 percent of total retail sales of electricity in California to end-use customers and 100 percent of electricity procured to serve all state agencies by 2045. As part of this larger goal, in August 2022 the California Energy Commission (CEC) established a planning goal of 2-5 gigawatts (GW) of offshore wind (OSW) energy by 2030 and 25 GW by 2045.[2] Currently California has no existing or approved offshore wind facilities.

To meet its OSW energy goals the California State Lands commission (SLC) developed the AB 525 Port Readiness Plan to specifically evaluate the port and related infrastructure required to service the offshore wind industry.[3] The goals of the Port Readiness Plan are detailed below:

- Identification of sea space, which entails designating potential Wind Energy Areas (WEAs) along the California coast based on wind potential, existing port and transmission infrastructure while minimizing cultural and biological conflict areas
- Waterfront facilities improvements plan, including facilities that could support construction and staging, manufacturing of components, final assembly, and operations and maintenance
- Transmission planning in consultation with the California Public Utilities Commission (CPUC) and the Independent System Operator, to assess transmission investments and upgrades necessary, including potential subsea transmission options
- Permitting, which entails developing and producing a permitting roadmap that describes timeframes and milestones for a coordinated, comprehensive, and efficient permitting process for offshore wind energy facilities
- Potential impacts on coastal resources, fisheries, Native American and Indigenous peoples, and national defense, and outline strategies to address those impacts

Additionally, California voters approved Proposition 4, also known as the Climate Bond, in November 2024. This bond allocates $475 million for port infrastructure projects supporting offshore wind development.[4] This funding aligns with the California Public Utilities Commission's recently established target to procure up to 7.6 gigawatts (GW) of offshore wind energy by 2035.

To achieve this ambitious goal, a coordinated multiport strategy will be essential. Currently, no dedicated OSW manufacturing facilities have been proposed on the U.S. West Coast, and as of April 2025, the U.S. does not yet have any ports actively manufacturing nacelles for offshore wind turbines. Many ports today are currently operating as staging and pre-assembly ports. To date, the Port of Humboldt remains the only West Coast port to secure federal funding in support of OSW.

While the market is still in its early stages, California has a rich history of adopting and running with innovation. The state is making strides, focusing on key areas like infrastructure development, including at ports, undertaking legislative efforts to identify federal, state, and local funding sources along with private investment, ensuring that port facilities are adequately prepared to support development. The promise of renewable energy generation brings more than just security to the state, it brings the potential for economic opportunity and global competitiveness to the Port of Benicia.

OSW Port Types

The AB 525 Port Readiness Plan[5] establishes the goal of having waterfront facilities (i.e. ports) support the construction and staging, manufacturing of components, final assembly, and operations and maintenance needs for the development and deployment of floating offshore wind off of California's coast. According to the AB 525 Plan, there are three types of ports required to support floating OSW energy development; these include:

[2] AB 525 Planning Goals Report and Adoption Resolution.
[3] AB 525 Port Readiness Plan.
[4] California Legislative Analyst's Office, Proposition 4 Ballot
[5] AB 525 Port Readiness Plan, California State Lands Commission and Moffat & Nichol

- Staging and Integration (S&I)
- Manufacturing/Fabrication (MF)
- Operation and Maintenance (O&M)

Opportunities in the wind energy supply chain have been investigated at a high level in this Task 2 report to provide the Port of Benicia with a starting point to consider feasible activities in these markets going forward, both to help the State of California meet its renewable energy goals and to generate additional/alternative revenue streams for the port and City of Benicia. Based on publicly available existing documentation and research conducted by the GHD team as part of this Modernization plan, the following findings are relevant to Benicia in the context of California's wind energy development goals.

- Benicia is best suited to serve as a Manufacturing/Fabrication (MF) site in support of OSW.
- Given its long distance from the two designated wind energy areas – or WEAs – relative to other ports, the Port of Benicia is not well suited to serve as an O&M port. Additionally, due to a smaller developable footprint (approximately 20 acres) compared to other larger ports (40–80 acres) and its vertical clearance restrictions as dictated by the Carquinez Bridge (140 feet), Benicia is not suitable for S&I activity.
- The Port of Benicia only has sufficient available land to manufacture smaller wind turbine components, such as nacelles, electrical cables or mooring lines.
- From a demand-supply perspective, based on available data for onshore nacelles, domestic manufacturing has kept pace with installations and is forecast to remain the same based on existing procurement contracts. Thus, unless new on-shore procurement contracts are set up for sites near Benicia, there is a very low incentive for manufacturers to set up a new manufacturing facility at Benicia for onshore nacelles.
- When OSW procurement picks up there could be a role for Benicia in the supply chain. There are no Tier 1 OEM manufacturing facilities in California. A nacelle assembly facility on the California coast would be advantageous once OSW procurement begins on the West Coast.
- Ports are usually responsible for providing a fully developed parcel, including wharf infrastructure, dredging, and ground-strengthened (3,000-6,000 psf) upland areas necessary to support Tier 1 component manufacturing. MF manufacturing plant proposals typically allocate 20-30 acres. Benicia would need to partner with one of the three OEMs (GE Vernova, Vestas, or Siemens Gamesa) that have domestic manufacturing to consider the port as a possible location to develop a nacelle manufacturing facility for OSW.
- High-level cost estimates for infrastructure development are similar across the assessed ports. The infrastructure upgrade costs for most ports in California are between $290-$325 million. Port of Benicia is neither at a specific cost advantage nor disadvantage.
- Currently the only other ports with OSW infrastructure development underway are planning to fill an S&I function to serve the immediate needs of the OSW supply chain. No port in California has detailed plans for MF site development.
- The Port of Benicia is among the least environmentally impactful California ports for MF activity.
- If Benicia is to develop as an MF port, permitting can take 4-8 years, and as per BOEM reports, demand for MF sites will begin from 2030 and 2032. In terms of market timeline, Port of Benicia is at a suitable stage to play a role in OSW supply chain as an MF port when demand for such facilities will be realized post-2032.
- As the owner of most landside property adjacent to the Benicia tidelands within the port, AMPORTS would be the signing party in any land related agreements to set up manufacturing facilities at the Port of Benicia. They could also be potentially responsible for initial site development work. Thus, any manufacturing facility development at the port would require close coordination and complete buy-in between the OEMs, AMPORTS and the City from early in the process.

Potential for Refinery Conversion

Conversion of crude oil refinery facilities into refined product distribution facilities is an emerging but not entirely new phenomenon. While the level of effort and costs associated with such conversions are substantial, there are several examples both within and outside the U.S. that the City of Benicia can look to as case studies. Conversion requirements are specific to each facility/site, but the following four examples illustrate various aspects of the conversion process that are relevant to Benicia as its largest employer, Valero, looks to idle, restructure, or cease refining operations at their Benicia facility.

- Martinez Refinery (Martinez, CA)
- Rodeo Refinery (Rodeo, CA)
- Altona Refinery (Melbourne, Australia)
- Tabangao Refinery (Batangas, Philippines)

The fundamental rationale behind converting a decommissioned refinery into a refined product distribution facility is to repurpose existing offloading, storage and distribution infrastructure, which is common between the two types of operations, in order to adaptively re-use capital and permitting-intensive assets for an extended period of time. This adaptive reuse significantly mitigates the challenges associated with developing greenfield infrastructure for a similar purpose while also reducing the level of effort required to fully remediate the decommissioned refinery for alternative uses. The Port of Benicia has the distinct advantage of already having a single-purpose deepwater berth that would require minimal modifications to handle other types of liquid bulk cargo.

The conversion process for the Valero Benicia refinery into a storage/import facility would likely involve the following. This conversion does not include any new renewable fuel refining.

1. Acquisition and Strategic Planning
2. Project Announcement and Conceptual Design
3. Permit Applications and CEQA Scoping*
4. Draft Environmental Impact Report (EIR) and Public Review*
5. Final EIR and Permit Issuance*
6. Decommissioning of Refinery Unity and Site Preparation
7. Construction and Infrastructure Conversion
    a. Tank Retrofitting
    b. Marine Terminal Upgrades
    c. Truck/Rail Loading System Upgrades
    d. Operational Testing and Ramp Up
    e. Full Import Terminal Operations

**State Lands Commission (SLC) coordination and marine oil terminal engineering and maintenance standards (MOTEMS) assessment would happen during the permitting phase.*

Potential Conversion Timeframe

The estimated timeframe for converting the Valero Benicia refinery into an import terminal is approximately 3–5 years. This includes time for acquisition, planning, permitting, construction, and commissioning.

Potential Conversion Cost

Rough order of magnitude cost is likely to be between $600-$800 million depending on the required terminal upgrades and retrofits. This estimate assumes a 50% scale factor relative to the cost of the Martinez Renewable Fuels project based on the reduced scope focused on storage, logistics, and import infrastructure (not renewable fuel production).

Circulation and Transportation Analysis

Key findings of the GHD team's analysis of the transportation network surrounding and serving the port indicate that, while most study intersections currently operate within acceptable thresholds, Park Road and Bayshore Road are exhibiting operational constraints ranging from pavement condition concerns to safety and geometric issues to level of service (LOS) challenges associated with queuing times and distances, making them candidates for immediate improvements. Based on future ro-ro cargo growth projections and truck routing assumptions, modest increases in truck traffic are expected by 2050. These increases alone are not expected to significantly degrade operations at most study intersections, particularly if previously identified improvements from the transportation impact fee (TIF) program are implemented. However, without strategic investment, the addition of truck traffic will contribute to the ongoing deterioration of roadway surfaces. Several roads within the study area may not meet structural or geometric design standards for heavy vehicle traffic, and targeted upgrades will be necessary to preserve system functionality and safety. Specific findings are as follow:

1. Intersection Operations
    - Most study intersections currently operate within acceptable thresholds.
    - Park Road and Bayshore Road are already exhibiting operational constraints, making them candidates for immediate improvements.
    - Projections indicate modest increases in ro-ro–related truck volumes by 2050. These increases, when paired with implementation of TIF program improvements, are not expected to significantly degrade operations at most locations.
2. Truck Turning and Routing Constraints
    - Nearly all intersections studied lack adequate turning radii for STAA trucks moving between I-780/I-680 and the port.
    - The I-680 interchange, with split ramps to Bayshore Road and Industrial Way, is not designed for STAA circulation. Adjacent intersections (Park/Bayshore, Park/Industrial) already show signs of degraded traffic flow.
    - Current truck routes (East 5th Street, Military East, Park Road south of Oak Road) generate significant conflicts with downtown multimodal intersections and contribute to safety issues.
3. Multimodal Conflicts
    - Several designated bike routes (Park Road, Military East, Adams Street) directly overlap with truck corridors, creating recurring conflicts between bicyclists and heavy vehicles, especially at intersections like Park Road and Adams Street.
    - The intersection of Military East and 5th Street is both a multimodal focal point and a collision hot spot; continued truck traffic exacerbates safety risks here.
4. Pavement and Roadway Standards
    - Without targeted investment, additional truck traffic will accelerate surface deterioration.
    - Several roadways do not currently meet structural or geometric standards for heavy vehicle traffic.
    - Based on the 2017 TEC study, the plan recommends a Pavement Condition Index (PCI) target of 75 for all truck routes and a Truck Index (TI) standard consistent with STAA vehicle loading to preserve long-term system functionality.
5. Rail Grade Crossings
    - Grade crossings remain a vulnerability to system reliability. In particular, the Park Road crossing north of Bayshore creates areawide traffic lockups when blocked, posing both general circulation concerns and potential evacuation or emergency access concerns.

Infrastructure Needs (Gap) Assessment

Based on the analysis provided throughout this report, the GHD team has identified the following initial, and high-level, list of potential projects that are likely to be required to support future growth at the Port of Benicia. This list is not comprehensive and does not necessarily represent a final list of potential projects for consideration or advancement. Neither has any technical or financial feasibility analysis yet been completed for any of these projects; and, no costs have been estimated. A recommended list of projects to be considered for advancement will be provided as part of the Task 4 deliverable.

Waterside Projects

In order to meet the port's future ro-ro cargo capacity requirements while also facilitating throughput of additional cargo types (i.e. high and heavy, project and potentially other breakbulk cargo), the existing pier structure requires major structural improvements. As indicated in the existing infrastructure assessment completed as part of Task 1, portions of the pier have been rebuilt after fire damage but the shoreside access trestle and pier immediately adjacent to the access ramp have not been replaced and are at the end of their useful life. The southwestern end of the pier is similarly degraded and not suitable for cargo loading/offloading operations. As a result, this pier can only accommodate two vessels simultaneously despite having three designated berths. If petroleum coke operations are discontinued in association with Valero's current intent to idle, restructure, or cease refining operations at their Benicia Refinery by the end of April, 2026, then a third berth may not be necessary to accommodate anticipated growth in cargo volumes since the existing coke berth and adjacent backlands could be converted to accommodate additional ro-ro operations. However, structural improvements that amount to a near-complete reconstruction of the obsolete timber pile sections of the existing pier would still be considered high-priority improvements.

Apart from the existing pier structure, the existing Valero liquid bulk dock, which sits just to the northeast of the Port of Benicia's existing pier structure, would need to be improved in order to accommodate a transition from crude operations to refined product operations. Analysis of the Valero dock is outside the scope of the Port of Benicia Facilities and Infrastructure Modernization plan and Valero's intent to idle, restructure, or cease refining operations at their Benicia Refinery by the end of April, 2026 was not known at the time the scope was developed. Because this facility may be offline in the near future, the City and other key stakeholders may choose to evaluate the potential to convert the Valero dock for adaptive re-use, especially given the value of having an existing deepwater liquid bulk berth.

Additional waterside projects may be identified to mitigate the impact of climate change in terms of both SLR and storm events.

Landside Projects

- Road Network

  The Park Road and Bayshore Road intersection is exhibiting operational constraints and is a candidate for immediate improvements. Several other roads within the study area may not meet structural or geometric design standards for heavy vehicle traffic, and targeted upgrades will be necessary to preserve system functionality and safety. Previously identified improvements from the transportation impact fee (TIF) program should remain a priority for implementation. A complete list of these projects can be found in Appendix C of the 2020 City of Benicia Nexus Study for Update of Development Impact Fees, which is appended to this Task 2 deliverable and also available online at:

  https://www.ci.benicia.ca.us/vertical/Sites/%7BF991A639-AAED-4E1A-9735-86EA195E2C8D%7D/uploads/Development_Impact_Fee_Nexus_Study_Update(1)(1).pdf

  Additional details specific to landside improvement recommendations will be presented as part of the Task 4 deliverable for this plan. In addition to TIF program projects, it is expected that several resiliency projects will be necessary to mitigate the impact of climate change in terms of both SLR and storm events on the road network serving the port. Specific recommendations related to the road network surrounding and serving the Port of Benicia are as follow:

1. Roadway and Pavement Upgrades
    - Full resurfacing and structural strengthening of STAA truck routes: Park Road, Oak Road (private), Bayshore Road (partially private), and Industrial Way.
    - Evaluate asphalt versus concrete paving to extend lifecycle under heavy loading.
    - Enhance physical separation between Bayshore Road and the adjacent rail corridor to reduce conflicts.
2. Truck Routing Strategy
    - Advance study (plan line, preliminary engineering, environmental clearance) and eventual construction of a new connector between East 2nd Street and Park Road, providing direct port access via Oak Road.
    - Reroute trucks to East 2nd Street, which has an interchange with I-780 designed to modern standards and Oak Road.
    - Abandon truck use of East 5th Street, Military East, and Park Road south of Oak Road.
    - This rerouting removes heavy trucks from downtown and aligns with the City's Circulation Element.
3. Intersection and Interchange Modernization
    - Prepare a Project Study Report (PSR) and Intersection Operations and Safety Assessment Plan (ISOAP) for the six critical intersections at Park/Bayshore, Park/Industrial, and the I-680 interchange ramps.
    - Evaluate alternative intersection controls to accommodate STAA circulation.
    - Improvements will be consistent with the Circulation Element, TIF program, and TEC study.
4. Multimodal Redevelopment
    - Once trucks are diverted, reprogram Military East and Adams Street as employee access corridors for cars, pedestrians, and bicyclists.
    - Reinforce the downtown extension concept by improving pedestrian and bicycle connections into the City's historic military district.
    - Build upon the recent multimodal redesign at Military East/5th Street, further reducing collisions and improving safety.
5. Rail Grade Crossing Enhancements
    - Conduct a grade crossing study for all port-serving corridors.
    - Prioritize improvements at Park Road just north of Bayshore, where blocked crossings cause widespread network delays.
    - Integrate grade crossing enhancements into PSR-level studies.

- Rail Network

  The Port of Benicia is served exclusively by UP and UP owns and operates all rail assets within and adjacent to the Port. It is not expected that any rail improvements will be required to support projected growth in cargo volumes. That said, it is expected that several resiliency projects will be necessary to mitigate the impact of climate change in terms of both SLR and storm events on the rail network serving the port.

- Utilities

  As indicated in the Task 1 report for this plan, mechanical utility information is largely not available for the Port of Benicia.. A detailed survey of the port in collaboration with AMPORTS will be necessary as part of any landside infrastructure modernization effort.

  At minimum, new stormwater infrastructure will be required at the low-lying port facilities located immediately southwest and northeast of the George Miller Jr. Memorial and Benicia-Martinez Railroad bridges. This is due to the fact that these areas currently serve as the discharge points for all upland areas that shed water to the east side of Benicia. While there are four pump stations in service at these facilities (two southwest of the bridges, two northeast of the bridges) stormwater is currently discharged directly into the adjacent Carquinez Strait without filtration or any other treatment as a result of the age of the infrastructure and legacy regulatory frameworks.

  In terms of electrical infrastructure, given the City's desire to implement shore power at the Port of Benicia, it is expected that a number of additional projects specific to shore power and other decarbonization efforts will be identified and put forward as part of the GHD team's Task 3 analysis.

  PG&E records also indicate that there are underground natural gas lines at the perimeter of the terminal. These gas lines are part of the city-wide network which provide gas to the area. The existing gas line infrastructure serves to provide natural gas services to the existing buildings located on or at the terminal facilities. No required improvements to the port's gas assets have been identified.

- Land Reclamation/Improvements

  Apart from making improvements to existing assets, if deemed technically and economically feasible upon additional study, GHD recommends that both the sandstone "outcropping" site (aka Bottle Hill) and the "Pine Lake" site (aka Park Yards), shown in Figure 30 below as sites "**1**" and "**2**", respectively, be converted into usable land to support port operations and potentially accommodate future growth in cargo throughput.

  For the outcropping site, the existing bluff would need to be cleared, demolished and leveled to an elevation that is roughly equivalent to that of other waterfront properties within the port. Utility connections and paving would also be required. The demolition of this site and addition of this usable area (~12 acres) would not only increase the static storage capacity of the Port of Benicia, but also potentially provide fill material for the Pine Lake site to further increase the near-port vehicle storage and processing area accessible to the port operator. Since it is already known that existing port properties have significant settlement challenges and that future SLR will likely inundate large parts of these waterfront properties, it may also be desirable to use the rock and dirt from the outcropping demolition as fill material to increase the elevation of existing areas of the waterfront. The feasibility of doing this remains to be explored, however.

  For the Pine Lake site, while already at a significantly higher elevation than other port properties, especially those along the water's edge, the site itself requires leveling, utility connections and paving, at a minimum. Improvement of the Pine Lake site would similarly add usable area (~21 acres) and increase the static storage capacity of the Port of Benicia.

  Both of the above land reclamation/improvement projects were previously identified by AMPORTS as high-potential enhancements to the Port of Benicia.

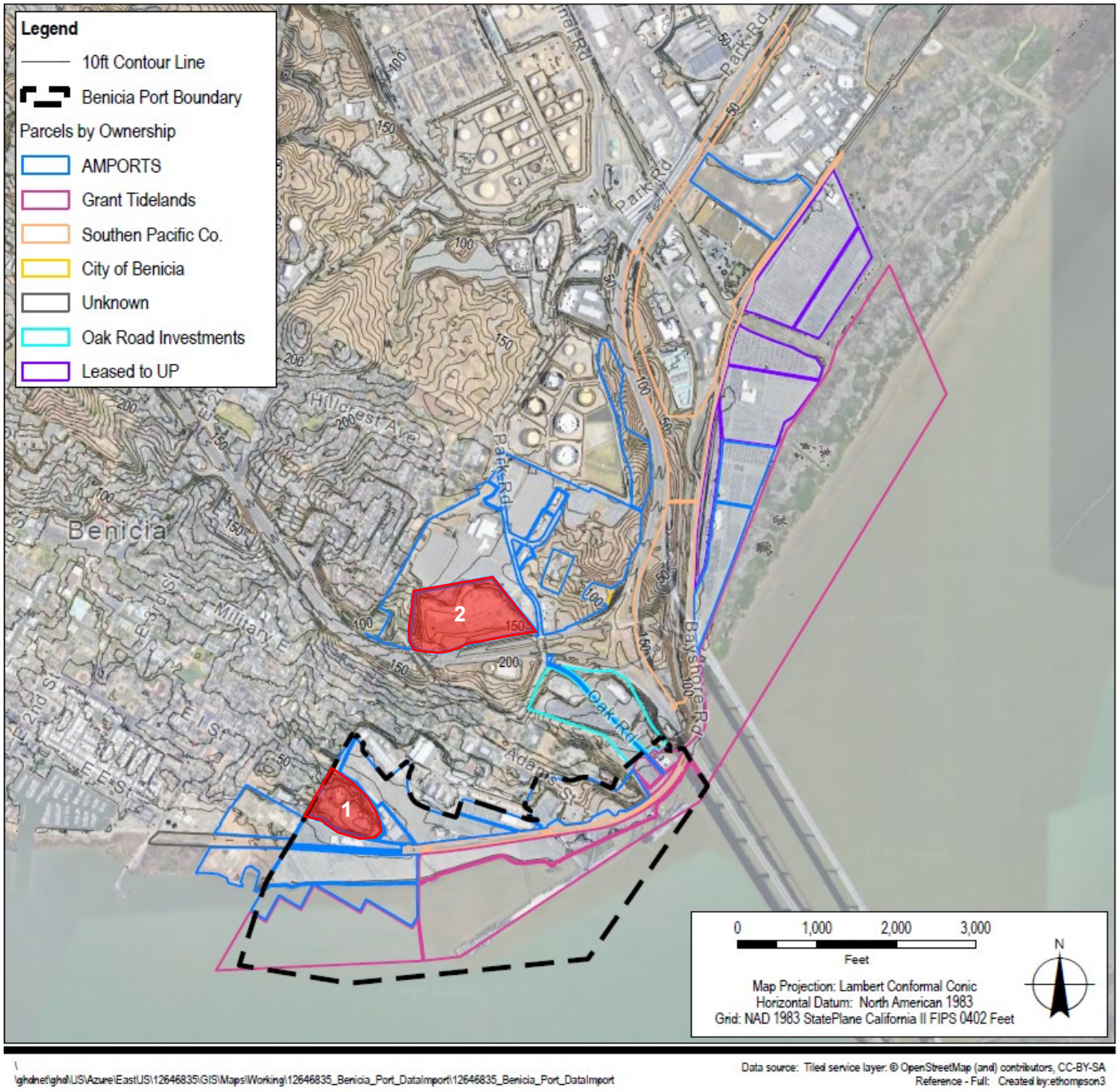


Figure ES3: Potential Land Reclamation Areas within the Port of Benicia

Introduction

Port of Benicia Overview

The Port of Benicia (port) is located in Solano County on the northern bank of the Carquinez Strait approximately 19 miles northeast of the Port of Oakland and 25 miles northeast of the Port of San Francisco. The California State Land Commission (CSLC) granted the tidelands adjacent to the port to the City of Benicia (City) in 1964. Figure 1 below shows the currently designated tidelands areas within the City of Benicia that are relevant to this Facilities and Infrastructure Modernization plan.

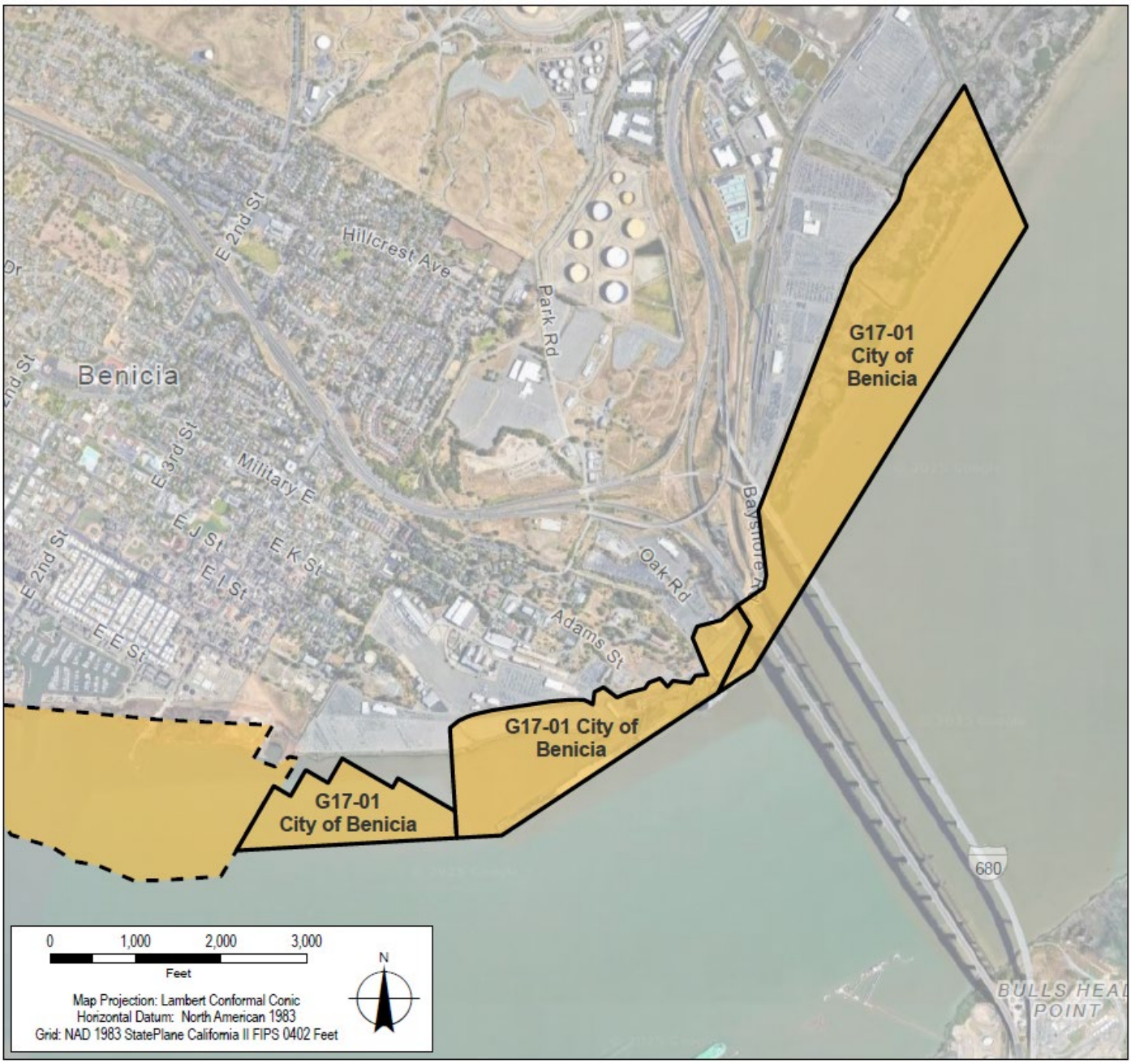


Figure 1: City of Benicia Port-Adjacent Tidelands Areas (source: California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/ NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS)

As a trustee of these lands the City cannot sell these lands or any infrastructure constructed on top of them, including the existing pier structure, which was originally built by the United States Army during the World War II era. The following is a verbatim description of allowed uses within the City of Benicia's tidelands area:

> *"The City of Benicia was granted certain waterfront lands within the city limits in trust in 1855. Additional sovereign tide and submerged lands were later granted to the City for the establishment, improvement, and conduct of a harbor, facilities incidental, necessary, or convenient for promoting and accommodating commerce and navigation, recreational facilities, and incidental facilities to accommodate these uses, including snack bars, cafes, restaurants, motels, launching ramps and hoists, storage sheds, boat repair facilities with cranes and marine ways, administration buildings, public restrooms, bait and tackle shops, chandleries, boat sales establishments, service stations and fuel docks, yacht club buildings, parking areas, roadways, pedestrian ways, and landscaped areas."* [6]

In 2019, the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) designated the Benicia Priority Production Area (PPA) via Resolution No. 02-2020, thereby incorporating it into the Bay Area 2050 Growth Geographies. The Benicia PPA is the largest industrial park in Solano County.

The land adjacent to the tidelands area of the port is privately owned and operated as a marine terminal by AMPORTS, doing business as The Benicia Port Terminal Company. With multiple locations in the United States and Mexico, AMPORTS is one of the largest auto processors in North America. The port specializes in roll-on/roll-off (ro-ro) cargo, particularly automobiles. The port also features a petroleum coke export terminal. Valero operates a separate dedicated liquid bulk terminal within the tidelands area of the port which is used exclusively for crude oil imports and refined petroleum product exports.

Landside access to the port is provided directly via Bayshore Road, Adams Road and Industrial Way, and indirectly via Park Road, all of which connect to the I-680 and/or I-780 freeways within two miles or less of the port's gates. Union Pacific Railroad (UP) also provides on-dock rail service to the port and can accommodate up to 170 multilevel railcars simultaneously.

Waterside access to the port is provided via a single 2,400 linear-foot pier structure that is 90 feet wide. This pier has linear capacity to berth up to three vessels simultaneously, but is structurally limited to two functional berths. In addition, its width of 90 feet and the geometry of the intersection between the pier and the 200-foot long, 70-foot wide trestle (aka Van Buren Street) that serves as the sole connecting causeway between the pier and *terra firma* presents challenges for existing cargo operations due to turning radius and other constraints. The controlling water depth at this pier and within the navigable area of the Carquinez Strait is -38 feet mean lower low water (MLLW). Valero's 1,200 linear-foot liquid bulk pier structure is located immediately to the northeast of the main pier structure.

The current City of Benicia zoning designation at the port is "port" and "port/water related industry" and is reserved for regional maritime/port use, including:

- Cargo handling and marine services
- Cargo storage
- Ship repairing
- Supporting transportation uses (i.e. trucking and rail yards)
- Logistics (i.e. freight forwarding and government activities related to port activity)

Figures 2 and 3 below illustrate the port's landside access routes and land use designations, respectively.

[6] https://www.slc.ca.gov/granted-public-trust-lands/grantees/benicia/

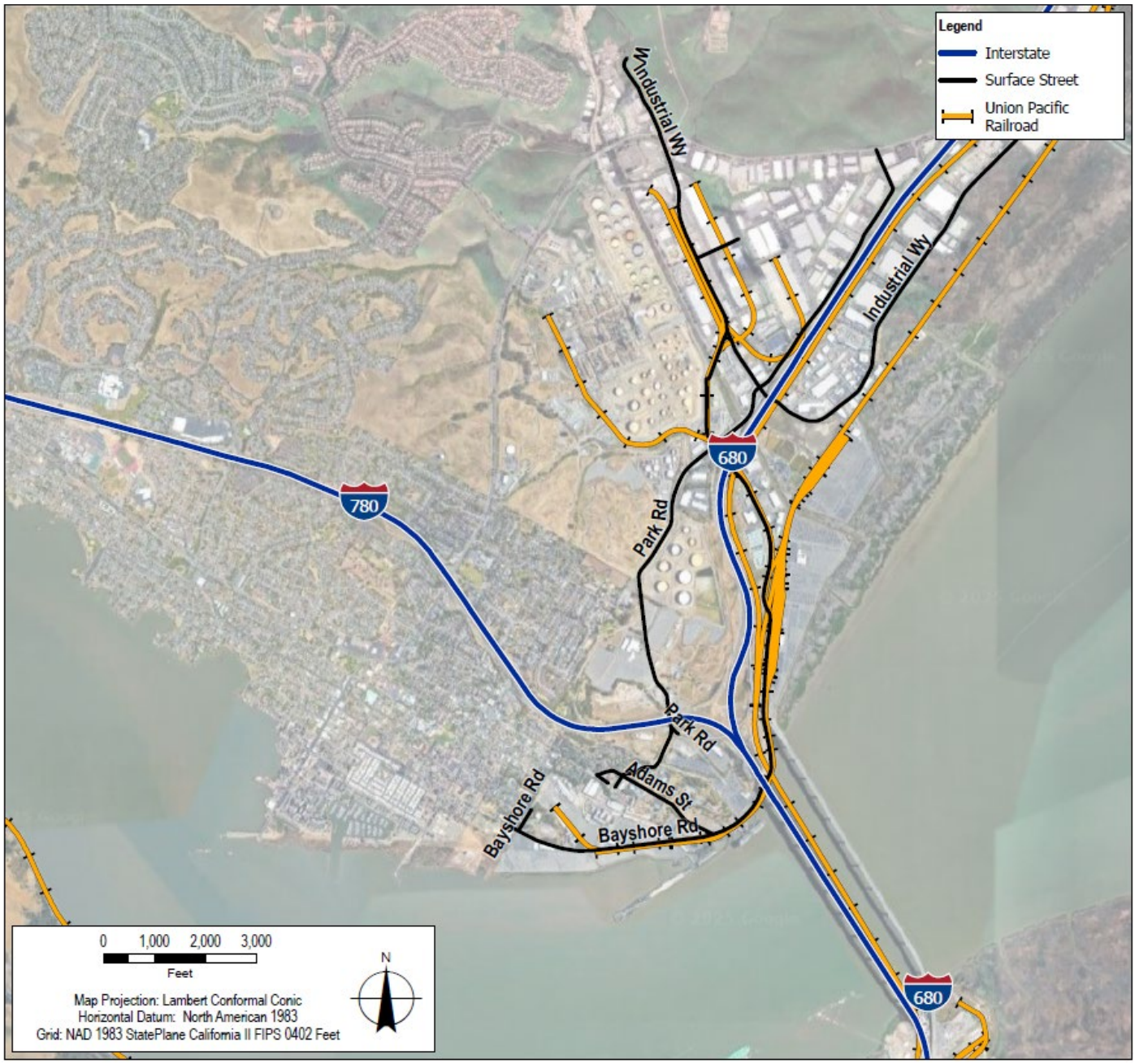


Figure 2: Port of Benicia Landside Access Routes (source: tiled service layer: © OpenStreetMap (and) contributors, CC-BY-SA created by: ethompson3)

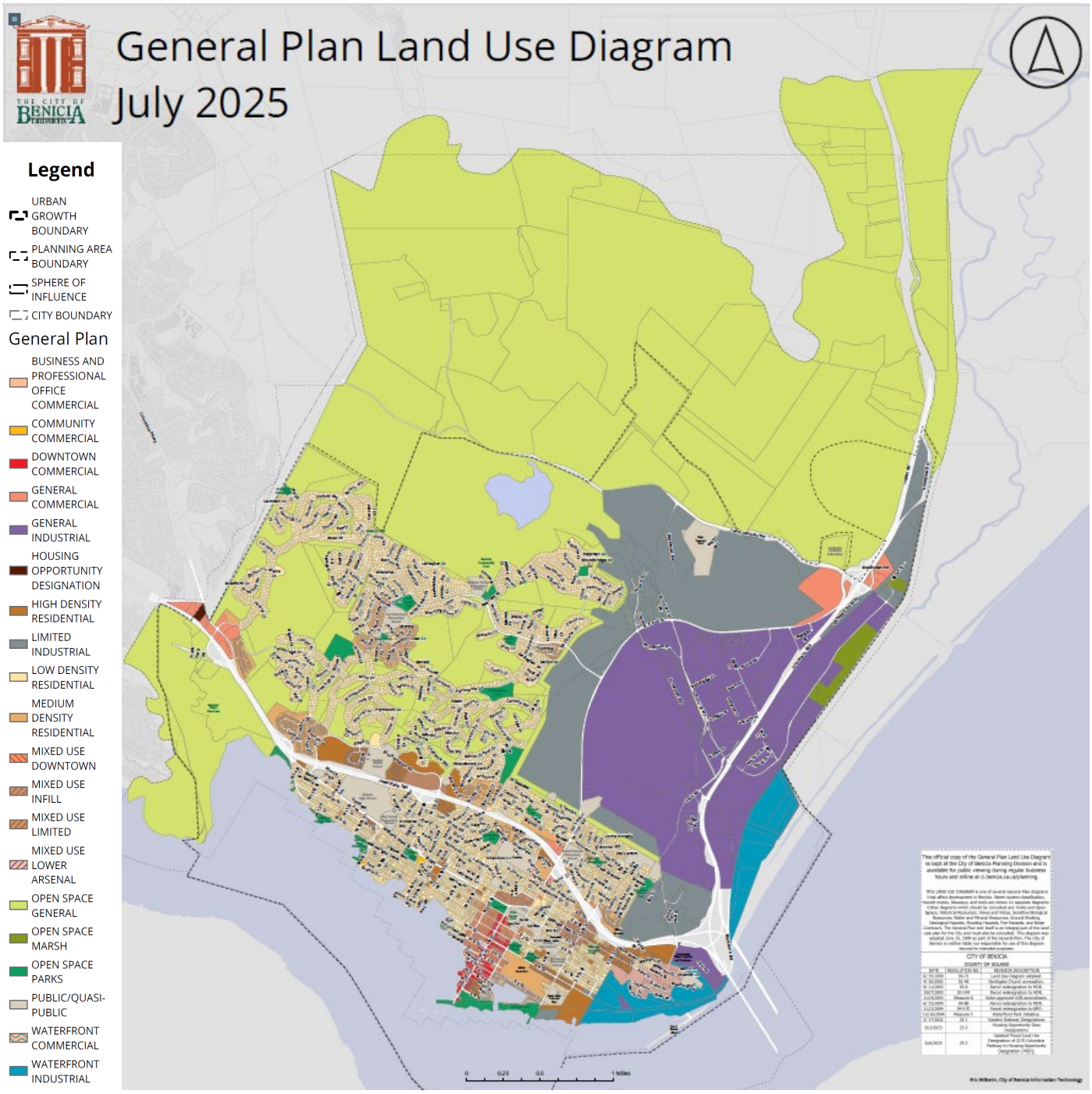


Figure 3: Port of Benicia Land Use (source: https://www.ci.benicia.ca.us/planning)

Purpose and Context

AMPORTS' 66-year lease of the existing three-berth pier at the port, and of certain portions of the adjacent backland area (see Figure 5) will expire in 2031, at which time operational control of these assets will revert to the City. This change in operational control of the port's only waterside access point presents both the City and AMPORTS with an opportunity to reimagine the long-term future of this significant regional waterfront asset. The GHD team was hired by the City in November, 2024, to develop a comprehensive Facilities and Infrastructure Modernization plan for the port.

Task 2 of this plan entails completing a port demand, capacity and circulation/ transportation analysis. The findings from this analysis will serve as an input to the Capital Improvement Plan (CIP) developed during Task 4 of the plan.

A list of all tasks associated with this Modernization plan is included below:

- Task 1: Infrastructure Assessment
- Task 2: Port Demand, Capacity and Circulation /Transportation Analysis
- Task 3: Decarbonization and Resiliency Pathways
- Task 4: CIP and Yard Expansion Feasibility Analysis
- Task 5: Update and Modernize Industrial Design Guidelines
- Task 6: Environmental Review
- Task 7: Draft and Final Plan
- Task 8: Plan Activation and Funding Support
- Task 9: Ongoing Funding Support (optional)

Using insights from the Task 1 infrastructure assessment along with data and stakeholder input collected in parallel, the GHD team has prepared the following summary of potential future port markets and activities to serve as a guide for the type, size and nature of capital improvements likely to be needed to allow Port of Benicia to remain competitive and grow its economic value to the region and local Benicia community long-term.

Asset Inventory

Port Users

The port is located within the 4,000-acre Benicia Industrial Park (BIP), which itself is located within the 4,645-acre Benicia PPA. The port consists of 282 gross acres of land (225 net acres), which includes 132 acres for static storage, 121 acres of which are dedicated to ro-ro operations. The AMPORTS website also identifies a total of 356,000 square feet of "fully equipped" vehicle processing buildings. The port handles only two types of cargo: imported automobiles and exported petroleum coke (coke). All coke handled at the Port of Benicia is produced at the adjacent Valero Benicia refinery and delivered to the port via rail car, where it is then siloed and loaded onto bulk vessels for export to Asia. All vehicles handled at the Port of Benicia are imported from Asia, Mexico and Europe. The port's primary ro-ro customers include:

Ocean Carriers

- Glovis
- K-Line
- NYK
- MOL
- ToyoFuji
- Great America Lines

Original Equipment Manufacturers (OEMs)

- VW
- Audi
- Porsche
- Bentley
- Mazda
- Toyota
- GM
- VinFast

Physical Assets

Figures 4, 5 and 6 below show Port of Benicia topographical conditions and assets as identified by AMPORTS leadership. Detailed information for each asset beyond that presented here has not been made available to GHD or the City. The overall surface condition of the port backlands areas is good in terms of paving, etc. However, both the age and the underlying geology of the waterfront sites in Benicia has resulted in several issues and potential future concerns.

First, the port is located on low-lying waterfront property, and many areas of this property have experienced significant differential settlement. Most of the *terra firma* backland areas of the port consist of asphalt over marshland and the GHD team observed settlement of up to five feet in some areas of the port, which has resulted over time in highly uneven surfaces throughout the paved waterfront areas. Several areas of the port backlands lie below sea level during higher tide periods; in fact, the entire Port of Benicia complex sits behind a constructed levee system that is necessary to prevent tidal flooding. More information related to the levee and potential future inundation risks will be presented in the Task 3 (Port Electrification and Resiliency) deliverable.

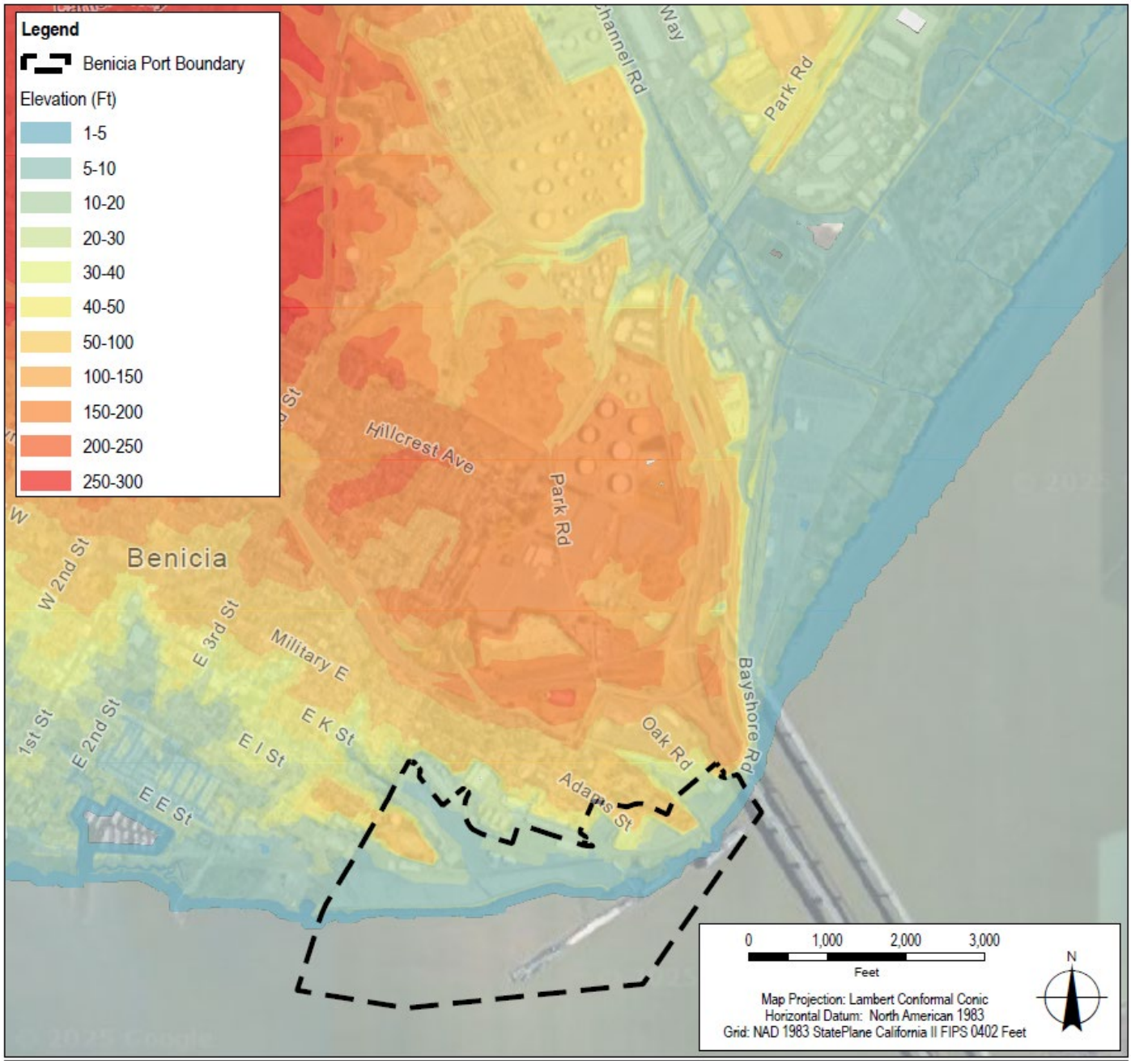


Figure 4: City of Benicia Topography (source: California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS)

Second, the port has been utilizing the same site civil infrastructure for over 60 years in some cases, meaning there is generally very poor documentation of mechanical utility infrastructure across the different areas of the port. Original as-built drawings, for example, are largely unavailable and none of the underground mechanical systems have been geolocated using GIS.

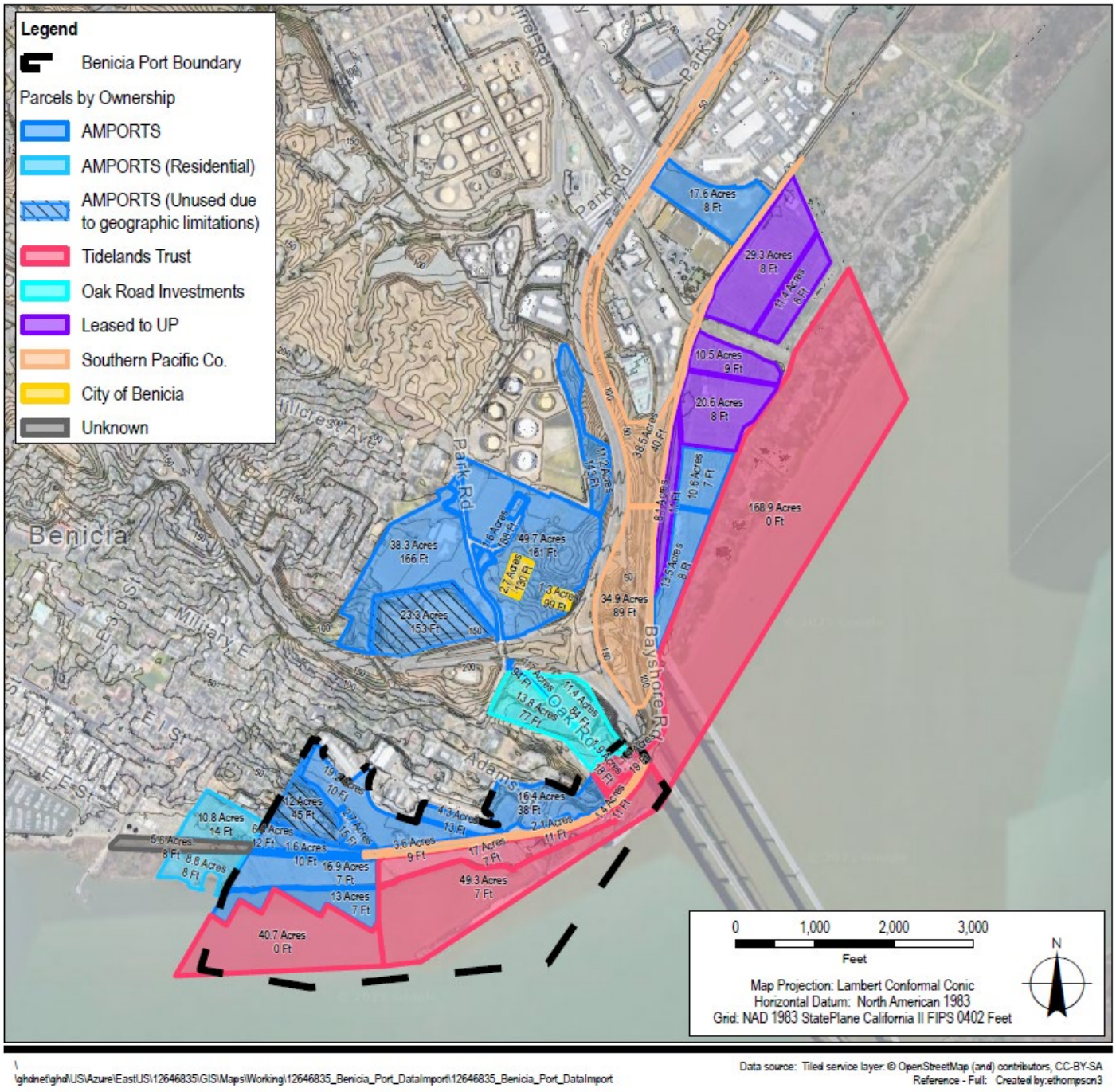


Figure 5: Port of Benicia Areas and Acreages (source: California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS)

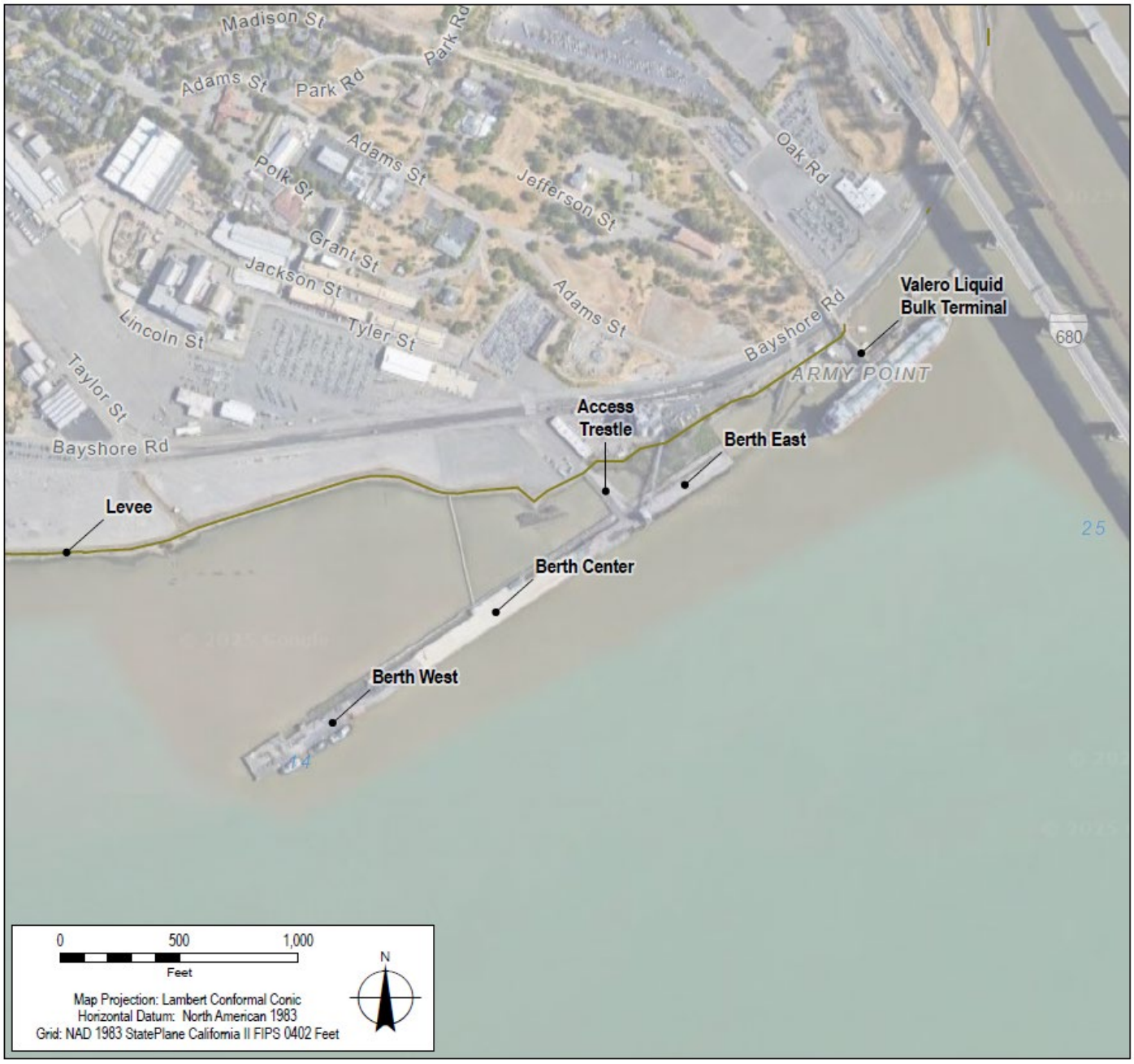


Figure 6: Port of Benicia Waterfront Assets (source: tiled service layer: © OpenStreetMap (and) contributors, CC-BY-SA Reference - Full: Esri Community Maps Contributors, California State Parks, © OpenStreetMap, Microsoft, Esri, TomTom)

Given that most of the land comprising the port is owned by AMPORTS, and that AMPORTS currently serves as the port operator in Benicia, operations on port land are largely outside the purview of the City except as relates to allowed uses and other compliance matters driven by federal/state and local laws. This dynamic, along with the age and lack of historical documentation related to port assets has constrained the ability of the GHD team to collect some of the core asset data that would ordinarily be included in an infrastructure assessment due to lack of visibility into some of the assets owned and/or operated by AMPORTS.

The baseline asset inventory for this plan will therefore necessarily be incomplete. In light of this dynamic, the focus of the asset inventory below and the infrastructure assessment that follows is largely limited to public infrastructure serving the port as well as private property that impacts or influences this public infrastructure. Such infrastructure includes, but is not limited to:

- The main pier structure serving the port
- The deep-water berths adjacent to the pier structure (dredged to -38 feet)
- Road and rail networks serving the port, including key intersections/grade crossings
- Above-ground and below-ground utility infrastructure serving the port, including electrical, gas and mechanical systems

Neither Valero's deep-water liquid bulk berth/operations nor any of the upland assets owned and managed by Valero in support of their Valero Benicia refinery operations are included in the scope of this Modernization plan due to the fact that they are privately owned, operated and maintained. Tidelands areas that are currently leased to AMPORTS, including those that are subleased to Valero by AMPORTS, are included. The levee currently protecting low-lying areas of the port will be assessed separately as part of Task 3 of this Modernization plan.

Demand vs. Capacity – Existing Commodities

Introduction

The purpose of this section is first and foremost to establish the current and potential future unconstrained demand for the port's two core commodities – petroleum coke (coke) and roll-on/roll-off (ro-ro) cargo – in order to document current capacity and assess the gap between current and future capacity needs based on future demand. In addition, opportunities in the renewable energy and alternative fuels spaces are investigated at a high level to provide the port with a starting point to consider feasible activities in these markets going forward, both to help the State of California meet its renewable energy goals and to generate additional/alternative revenue streams for the port and City of Benicia.

Current and Future Demand

Data Sources and Methodology

The Port of Benicia plays an essential role in Bay Area cargo flows. It is one of three seaports (Richmond, Benicia, and Redwood City) that handle import autos (ro-ro) and one of only two that that handle export coke. As global trade and supply chains are undergoing dynamic change, demand forecasting is essential for efficiently managing capacity, optimizing operations, and identifying potential future infrastructure needs. By analyzing historical cargo trends and future regional trends, this study develops a data-driven demand forecasting model to project the cargo flows at Port of Benicia under three scenarios through 2050.

Commodity Volumes

- 2019-2050 Bay Area Seaport Forecast

  Historical commodity volumes were necessary to develop ratios relating the Port of Benicia's volumes to that of the Bay Area ports and to the San Francisco region overall. The source of all Bay Area port commodity volumes was the 2019-2050 Bay Area Seaport Forecast report[7], prepared for the San Francisco Bay Conservation and Development Commission (BCDC) in May 2020. This report includes data on various commodities (including coke and ro-ro) for seven ports: Oakland, Richmond, Benicia, Redwood City, San Francsico, Levin-Richmond, and a group of "other" ports.

  The BCDC report includes forecasted volumes through 2050, which were determined using local and regional economic trends. These economic trends are wide-ranging, and include factors such as changes in personal income, housing permits, labor force size, and many others, coming together to make up a comprehensive, multi-faceted forecast. Since this report was created before the COVID-19 pandemic, it does not include changes in actual commodity volumes or changes to forecasted volumes that may be due to the economic shocks of the pandemic.

- Freight Analysis Framework Version 5.6 (FAF 5.6)

  FAF is prepared by the U.S. Department of Transportation (USDOT) Bureau of Transportation Statistics and the Federal Highway Administration (FHA).[8] to provide a comprehensive picture of freight movement among states and major metropolitan areas by all modes of transportation for historical years, recent years, and forecast years. For this analysis, the FAF data for the State of California and the region of San Francisco were used along with forecasts for NAICS code 36 (Motorized Vehicles) and NAICS code 19 (Natural Gas and Other Fossil Products).

[7] https://www.bcdc.ca.gov/wp-content/uploads/sites/354/2023/09/2019-2050-Bay-Area-Seaport-Forecast.pdf
[8] https://www.bts.gov/faf

The FAF produces a baseline forecast plus alternative forecasts for low economic growth and high economic growth. FAF 5.6 (the most current version, also used in this analysis) includes assumptions that acknowledge the COVID-19 pandemic; however, only up until approximately one year after the mass closures and economic shock from the start of the pandemic in 2020.

FAF forecasts are similar to those in the BCDC report in that they take into account numerous external factors that may affect freight volumes. The forecasts use a macroeconomic model of the U.S. economy as a basis, and are further refined using other U.S. regional economic models and international trade models. Notable assumptions relevant to this analysis made by the FAF include relative regulatory stability between the U.S. and trading partners, no transportation system capacity restraints to inhibit growth, and an absence of "major economic mishaps" between the present and 2050.

Vessel Capacities

In addition to projecting the tonnage of coke exported and the number of vehicles imported, it is also relevant to know the number of vessels that these volumes correspond to. With the knowledge of future vessel levels, the port can analyze its facilities to prepare for this growth. This analysis considered both standards described by an industry publication and capacities derived from the BCDC report data.[9] For both commodities, this analysis used the BCDC report data on number of vessel visits and commodity volume to derive a capacity per ship for coke vessels (21,938 tons per vessel) and ro-ro vessels (1,292 cars per vessel), respectively. Both capacities were markedly different than those described in an industry publication; therefore, the more locally specific data from the BCDC report was used exclusively.

Data Preparation

One important step taken before developing forecasts was preparing the forecast data from the FAF. For both coke and ro-ro cargo, large, permanent changes in typical volumes occurred in the years after the 2017 base year. First, while the FAF methodology includes some aspects of the COVID-19 pandemic, the forecasts for coke do not appear to be in line with actual commodity volumes observed since the creation of the forecast. For example, the 2017-2019 volumes were each above 2 million tons, peaking at almost 3 million tons in 2019. Then, in 2020 and after, volumes dipped below 2 million, plateauing at approximately 1.3 million tons in both 2022 and 2023. The same phenomenon (a large change sometime after 2017, with volumes plateauing at a new level afterwards) is also seen for ro-ro volumes. As such, the original growth rates were retained from the FAF forecast but were applied to the new plateaued volumes to create a modified version of the FAF forecasts.

Forecasting Methodology

In order to derive a specific forecast for future volumes of the port's two existing commodities, this analysis uses constant ratios based on recent commodity volumes to combine and extrapolate the two sources of future forecasts into a single, Port of Benicia-specific projection.

Using available historical commodity volumes at the Port of Benicia, the ratios between the port's volumes and those at all Bay Area ports as provided in the BCDC report, and at all regional ports as provided by the FAF, was calculated for all available years. These ratios were manipulated to give preference to data from more recent years, assuming they are more relevant to future forecasts than older years.

These two ratios were then used to calculate proportionate volumes for the Port of Benicia based on the two forecasts. An average was taken of the two volumes to get a single forecasted volume. This was done three times, one with the two "low" scenarios from each forecast source, one with the two "moderate" or "baseline" scenarios, and one with the two "high" scenarios.

One difference between the two sources of forecasts is that the BCDC report forecasts ro-ro imports by number of vehicles, while the FAF forecasts use tonnage. To get a standard unit between the two sources, this analysis made assumptions about typical vehicle weights and the composition of imports between passenger vehicles and pickup trucks.

[9] https://www.kar-tainer.com/post/vehicle-shipping-container-vs-roro-capacity-situation.

This analysis follows the BCDC report, which indicates that vehicle imports to the Bay Area are generally mainly passenger vehicles, contrary to nationwide trends that much more heavily favor pickup trucks. Therefore, the forecast import composition is assumed to be 90 percent passenger vehicles at 1,587 kg and 10 percent pickup trucks at 3,855 kg.

Lastly, to create a forecast of future vessel visits, each forecast scenario was divided by the appropriate ship capacity to derive the minimum number of ships needed to accommodate that level of export or import volume.

Demand Forecasts

Based on the historical data and regional-level cargo flow for oil products and motorized vehicles, this section estimates growth at the port through 2050 under three scenarios – low, moderate, and high – which aligns with the FAF and BCDC report low, baseline, and high forecast scenarios, respectively.

- Petroleum Coke

  Coke, also referred to as petcoke, is a carbon-rich solid material produced as a byproduct of the oil refining process. There are two Bay Area ports handling coke: Levin-Richmond and Benicia. Levin-Richmond is a privately-owned single-purpose facility. Coke handled at Port of Benicia is solely a byproduct of Valero's refining operations in the City of Benicia. The Levin-Richmond terminal is scheduled to phase out petroleum coke storage and handling by the end of 2026, after which the Port of Benicia will be the only port in the region handling coke export, assuming the Valero Benicia refinery remains operational.[10] As shown in Figure 7, in 2018 Benicia handled about 295,000 tons of coke. However, petroleum coke tonnage is estimated to have declined until 2023, after which point it has mostly stabilized.

  Projections for future coke export volumes at the Port of Benicia are tied directly and proportionately to the Valero Benicia refinery and its level of activity. As a crude oil refining byproduct that is sold as a commodity to third-party industrial production facilities worldwide, the supply of coke exports through the Port of Benicia will always be a more-or-less linear function of the volume of crude oil refined in Benicia.

  The future coke volume projections shown in Figure 7 and Table 1 assume that Valero's refining operations in Benicia will remain relatively constant through the year 2050 with only minor year-over-year fluctuations. Accordingly, both the moderate and high forecasts indicate positive growth compared to 2023, though not compared to 2019, which serves as the baseline year for analysis. None of the three forecasts anticipate the Port of Benicia's coke export volumes ever again equaling the historic peak volumes reached between 2015 and 2016, however, given the general decrease in fossil fuel consumption expected within California going forward.

  If refining activity in Benicia increases, the volume of coke available to export will also increase. If refining activity in Benicia curtails or ceases altogether, then the volume of coke available to export through the Port of Benicia will also decrease (or disappear) accordingly.

[10] https://www.ci.richmond.ca.us/DocumentCenter/View/59376/2021-11-12-Press-release_Coal-and-petcoke-ordinance-lawsuit-settlement.

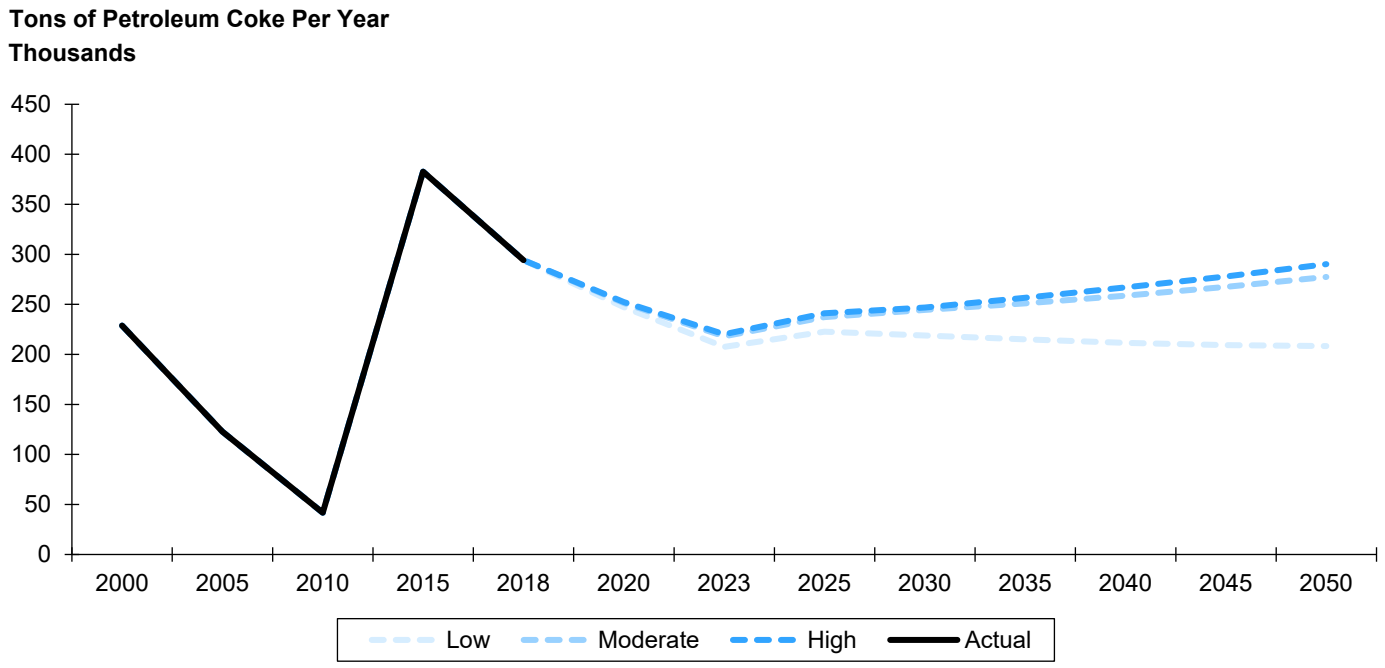


Figure 7: Historic and Future Volumes of Petroleum Coke (source: 2019-2050 Bay Area Seaport Forecast; FAF 5.6; Forecast conducted by Cambridge Systematics, Inc.)

Table 1: Estimates of Historic and Future Volumes, Vessel Visits of Petroleum Coke

Year	Low (tonnage)	Low (vessels)	Moderate (tonnage)	Moderate (vessels)	High (tonnage)	High (vessels)
2019	313,486	15	315,645	15	316,077	15
2023	207,570	10	218,046	10	220,218	11
2030	221,931	11	247,701	12	250,923	12
2040	214,840	10	262,439	12	271,833	13
2050	212,043	10	281,855	13	295,760	14
Percent Growth (2019—2050)	-32%	-33%	-12%	-13%	-8%	-7%
CAGR (2019—2050)	-1.3%	-1.3%	-0.4%	-0.5%	-0.3%	-0.2%

Source: 2019-2050 Bay Area Seaport Forecast; FAF 5.6; Forecast conducted by Cambridge Systematics, Inc.

- Ro-Ro Cargo

  Ro-ro cargo consists of marine cargo that is loaded/unloaded from a vessel on wheels, and includes both towed cargo (i.e. materials/products mounted on wheeled chassis) and self-powered cargo (i.e. automobiles). Projections for ro-ro cargo at the Port of Benicia all show continued increases (see Figure 8). 2050 volumes are forecast to be between 327,000 and 362,000 vehicles per year. This is in line with the growth seen from 2010-2024. With an average vehicle capacity per ship at the port of 1,292 vehicles, the number of vessels needed for these volumes in 2050 ranges from 254 to 280 ships per year, as seen in Table 2.

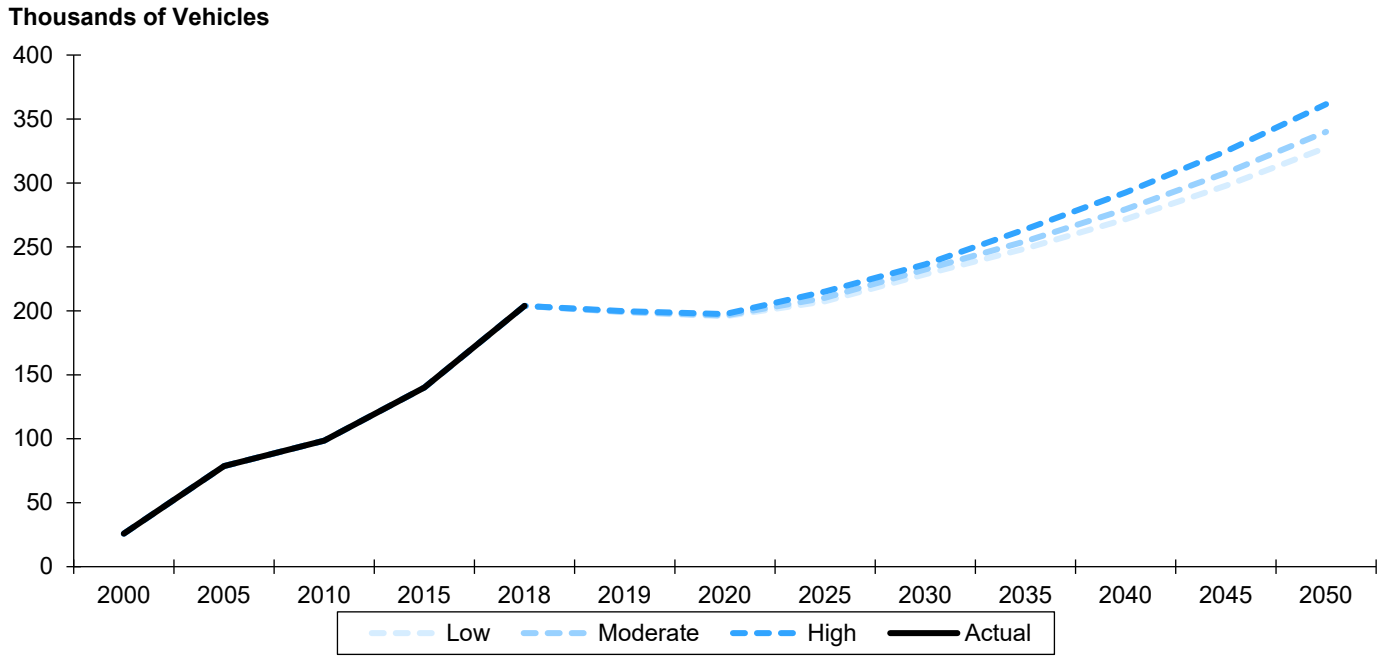


Figure 8: Historic and Future Volumes of Ro-Ro Cargo (source: 2019-2050 Bay Area Seaport Forecast; FAF 5.6; Forecast conducted by Cambridge Systematics, Inc.)

Table 2: Estimates of Historic and Future Volumes, Vessel Visits of Ro-Ro Cargo

Year	Low (vehicles)	Low (vessels)	Moderate (vehicles)	Moderate (vessels)	High (vehicles)	High (vessels)
2019	198,863	154	199,198	155	199,765	155
2023	222,207	173	223,931	174	226,911	176
2030	230,370	179	230,172	179	243,142	189
2040	273,903	213	276,631	215	301,507	234
2050	330,469	256	336,318	261	373,112	289
Percent Growth (2019—2050)	66%	66%	69%	68%	87%	86%
CAGR (2019—2050)	1.0%	1.0%	1.0%	1.0%	1.2%	1.2%

Source: 2019-2050 Bay Area Seaport Forecast; FAF 5.6; Forecast conducted by Cambridge Systematics, Inc.

Projection Fluctuations

The projections above have been made without consideration of the port's actual physical and/or operational constraints on handling increases in cargo volume. Instead, consistent with industry best practices, these projections show an unconstrained Port of Benicia that is able to grow freely proportional to regional changes. This analysis is consistent with the capacity analysis done for the port found in the following section.

All projections presented here are subject to change due to modifications to the assumptions upon which they are based. Ro-ro import volumes, in particular, involve multiple assumptions that could result in different future volumes if changed. The Port of Benicia currently handles vehicle imports that are primarily lighter passenger vehicles, with a small portion of heavier pickup trucks. This contrasts with overall U.S. consumption patterns which more heavily favor pickup

trucks. If the composition of vehicle imports at the Port of Benicia were to trend towards the buying patterns of the country as a whole, the derived number of vehicles from the tonnage forecast would decrease.

These projections are also subject to change due to outside factors. At the local level, the Port of Benicia could be subject to popular and/or legal pressure to reduce and/or eliminate its handling of petroleum coke. The neighboring port community in Richmond has already seen municipal and community pressure to address the impact of pollution from coke. At a much broader scale, a marked change in international trade policy could also greatly impact volumes at the Port of Benicia. In the late-2010s, change in U.S. tariff policies resulted in retaliatory tariffs that lowered domestic coke exports; it took until 2023 to rebound to 2018 levels.

Demand vs. Berth Capacity

Projected growth in demand for coke exports and vehicle imports was created without including any capacity limitations at the Port of Benicia itself. To analyze the port's capabilities to handle projected growth across each of these two cargo types, forecasts are compared below to the port's current estimated capacity. Assuming a 24/7 operation and using the current conditions of the port's berthing capabilities as described in the Asset Inventory section of this report, Port of Benicia is able to handle 14 total petroleum coke vessels per year and a maximum of 248 ro-ro vessels per year. Since the Port of Benicia is solely an export port for coke and solely an import port for ro-ro cargo, all berth capacity is available to accommodate one-way cargo flows in the direction of interest for each type of cargo, consistent with the above cargo demand forecasts.

Table 3: Port of Benicia Berthing Capacity Estimates

Category	Petroleum Coke	Ro-Ro
Berths	1	1
Avg. actual dwell time (hours)[1]	366.2	20.8
Avg. berth occupancy window (hours)[2]	622.5	35.3
Total ships/year possible	14	248
Export %	100%	0%
Import %	0%	100%
Direction of interest ships/year possible	14[3]	248[3]

[1] 2022-2024 average; data from communication with AMPORTS, 03/2025.

[2] Assuming a 70% cushion, as used in the 2019 BCDC report.

[3] Direction of interest for coke is exports; direction of interest for ro-ro cargo is imports.

Comparing this capacity to the demand projections in Table 4, the port is estimated to be able to accommodate the projected demand for all forecasted years and forecast demand levels for petroleum coke exports. However, by 2050, in a high demand scenario, exports would use all available berthing windows. For vehicle imports, the port is estimated to be able to accommodate all demand levels until 2040. Beyond that point, it would exceed its supply of berthing windows in a high demand scenario. In 2050, all three demand scenarios result in higher demand than can be met by the port's existing supply of berthing windows.

Table 4: Port of Benicia Capacity versus Demand Forecast

Commodity	Scenario	2030	2035	2040	2045	2050
Petroleum Coke Surplus / (Deficit)	Low	3	4	4	4	4
	Moderate	2	2	2	1	1
	High	2	2	1	1	0
Ro-Ro Surplus / (Deficit)	Low	69	53	35	15	(8)
	Moderate	69	52	33	12	(13)
	High	59	37	14	(12)	(41)

As seen in Figure 9 below, the Port of Benicia has capacity in the near- and medium-term to handle projected demand of coke exports and ro-ro imports.

The three forecasts for coke, seen in shades of blue, include decreases in demand which pose no threat to capacity constraints, along with two levels of demand increases, the highest of which translates to usage of 99 percent of the port's existing berthing slots for coke exports in 2050.

For ro-ro cargo, the near-term usage is low – below 75 percent. However, with all three forecasts, in shades of blue, showing expected growth in imports, the average expected occupancy crosses 90 percent by 2045. Also, in that year, the high forecast outpaces supply; by 2050, all three forecasts outpace the existing berthing capacity at the Port of Benicia.

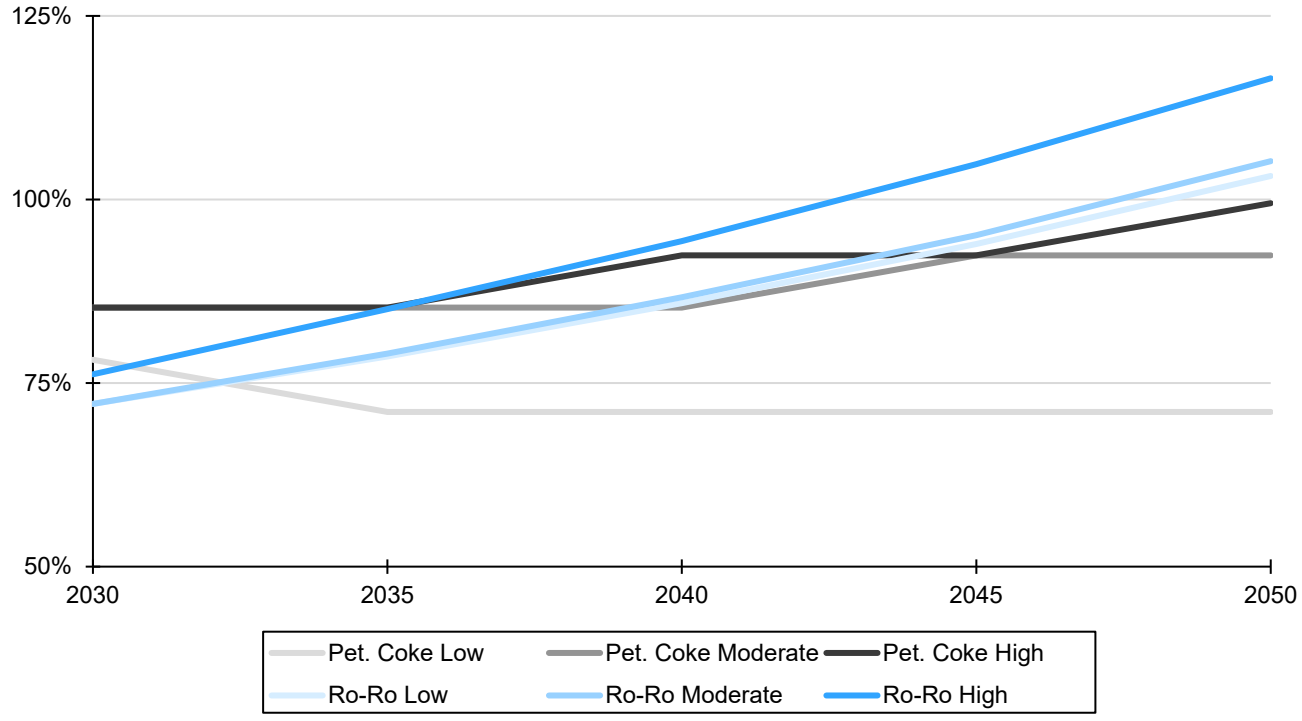


Figure 9: Capacity Utilization by Commodity and Growth Scenario

Demand vs. Landside Capacity

One important aspect of ro-ro cargo is that it needs landside space in close proximity to the berth to be temporarily parked after being offloaded from a vessel. Therefore, the landside capacity for storing vehicles must be taken into account in addition to the berthing capacity. According to analysis completed in the 2019 BCDC report, the efficiency of storing vehicles will range from 1,444 to 2,903 annual vehicles per acre (to be determined by the mix of vehicles, their sizes, and storage density). This analysis also found that the Port of Benicia's current property has capacity for between roughly 108,000 and 218,000 vehicles annually. With potential leased space included, there is an additional capacity of roughly 50,000 to 102,000 vehicles.

Table 5: Port of Benicia Landside Capacity for Ro-Ro Cargo

	Acres	Low Capacity	Base Capacity	High Capacity
Annual Units per Acre		1,444	1,976	2,903
Existing: Benicia	75	108,302	148,212	217,737
Potential: Benicia lease	35	50,541	69,166	101,610
Total Landside Capacity	**110**	**158,843**	**217,378**	**319,347**

Assuming the port continues to utilize available leased space for ro-ro cargo, comparing this landside capacity to projected demand for space illustrates that operational changes will be needed in the near term to manage increased imports at current storage densities. If terminal densities increase as a result of operational changes (i.e. briefer on-terminal dwell times) then capacity will not be met until after 2040.

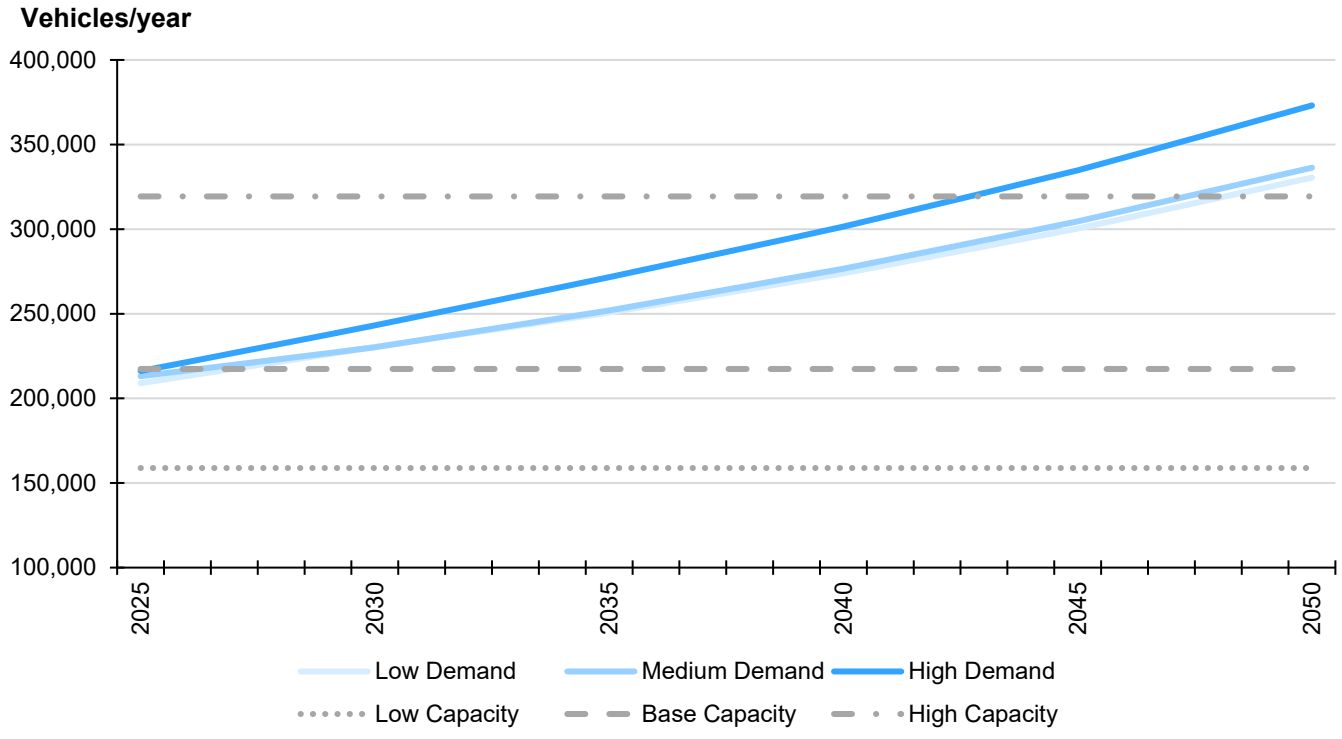


Figure 10: Projected Ro-Ro Imports Compared to Estimated Landside Capacity

After comparing demand projections to estimated capacity at the Port of Benicia, it is assumed that the port will have sufficient capacity to meet projected demand for coke exports. For ro-ro imports, however, there is potential for demand to outpace the port's ability to handle it. Available vessel berth windows might be in limited supply by 2040; available landside space to store offloaded vehicles is already becoming a limiting factor from time to time (under current storage densities), but this constraint will almost certainly intensify by the 2040s, when all three demand forecasts exceed the capacity even under the densest storage strategy. To adequately meet demand for ro-ro cargo in the near term, the port needs to expand landside capacity or find denser storage strategies (primarily done by handling smaller vehicles or reducing on-terminal dwell times). In the long term, the port will need to implement those strategies along with adding more berthing windows, either by adding a vessel berth or by decreasing the dwell time of vessels at berth.

Site-Specific Conditions

Beyond the regulatory and general market environment, there are multiple other site considerations that affect the feasibility of growth in cargo volumes at the Port of Benicia. While dedicated site condition assessments are required, the following section gives a brief outline of general site factors that need to be considered for future planning purposes.

The Port of Benicia is influenced by winds, water levels, waves, currents, river inflows, and groundwater. Table 6 outlines the typical environmental factors that need to be considered to establish existing conditions in the Carquinez Strait and along the coast.

Table 6: Existing Environmental Factors that Affect Port Suitability

Parameter	Description	Potential data source
Hydraulics and Hydrology	Assess tidal and freshwater movement and interaction using Stream gauge and watershed gauge data	National Water Information System
Groundwater	Saline and freshwater levels and water table and its stability	
Winds	Wind speed data at multiple locations along the channel and strait across different seasons	NOAA stations
Tides	Tides timing and influence on draft depths	NOAA/NOS tide gauge
Sea level Change	Identify recommended assumptions for sea level rise. The Port of Coors Bay assumes medium-high projection 50 years into the future for their assessment	
Currents	Assess maximum current speeds at different depths in the navigation channel	USACE assessments
Waves	Assessment of coastal wave direction height and intensity to determine safe operations window	Coastal Data Information Program (CDIP)
Bathymetric Conditions	Navigation channel width, depth	
Geotechnical Conditions	Seismic zones, liquefaction risks and sediment condition	

Source: Port of Coos Bay Port Infrastructure Assessment for Offshore Wind Development

Additionally, existing and planned infrastructure in the region can set vertical and horizontal constraints on the movement of certain project cargos into and out of the port, for example high-and heavy cargo such as offshore wind components (nacelles, towers, and blades). This includes features like bridges, Federal Aviation Administration (FAA) air restrictions, future projects, and the limits of the navigation channel.

Any site-specific flooding risk must also be studied in detail. The Adapting to Rising Tides (ART) Bay Shoreline Flood Explorer website, developed by BCDC and partly funded by the California Air Resources Board (CARB), allows users to visualize the flooding impacts for various scenarios.

Figure 11 depicts one possible scenario of the impact of a 50-year storm surge over the current mean high water level. This could result in a three-foot rise in water levels, crossing the overtopping line (red) and flooding the port. A more detailed analysis of risks associated with sea level rise is presented in the Task 3 deliverable for this Modernization plan.



Figure 11: Potential Flooding Impact at Port of Benicia (source: About the ART Bay Shoreline Flood Explorer)

Wind Energy Support

Introduction

This section of the Port of Benicia Facilities and Infrastructure Modernization plan focuses on identifying viable activities and providing the City of Benicia with an initial framework to navigate the renewable energy and alternative fuels markets contributing to California's renewable energy goals. This framework hopes to provide options to diversify and establish new revenue streams for the port. Specifically, the objective of the following analysis is to:

- Present California's offshore wind (OSW) deployment targets, which include size (gigawatts [GW]), scenarios and timing
- Identify supply chain requirements and the various port facilities needed to support statewide targets
- Identify the port's role in the renewable energy and alternative fuels markets
- Outline port infrastructure requirements and associated cost estimates associated with both OSW and land-based wind energy production.

The Bureau of Ocean Energy Management (BOEM) has commissioned multiple studies over the past few years to explore port infrastructure requirements for OSW in California. This section is primarily informed by the following studies:

- BOEM Study, Port of Coos Bay Port Infrastructure Assessment for Offshore Wind Development
- BOEM Study, California Floating Offshore Wind Regional Ports Assessment
- BOEM Study, California Floating Offshore Wind Regional Ports Feasibility Analysis
- BW Research Partnership, Floating Offshore Wind Manual
- CSLC Study, Alternative Port Assessment to Support Offshore Wind
- National Renewable Energy Laboratory (NREL), Offshore Wind Market Report: 2024

A more robust and thorough analysis of OSW opportunities relevant to the Port of Benicia is presented in Appendix B. What follows is an abbreviated version of this more thorough analysis.

California OSW Wind Targets

California's 100 Percent Clean Energy Act of 2018 (SB 100) requires that eligible renewable energy resources and zero-carbon resources supply 100 percent of total retail sales of electricity in California to end-use customers and 100 percent of electricity procured to serve all state agencies by 2045. As part of this larger goal, in August 2022 the California Energy Commission (CEC) established a planning goal of 2-5 GW of offshore wind energy by 2030 and 25 GW by 2045.[11] Currently California has no existing or approved offshore wind facilities.

To meet its offshore wind energy goals the California State Lands commission developed the AB 525 Port Readiness Plan to specifically evaluate the port and allied infrastructure required to service the offshore wind industry.[12] The goals of the Port Readiness Plan are detailed below:

- Identification of sea space, which entails designating potential Wind Energy Areas (WEA) along the California coast based on wind potential, existing port and transmission infrastructure while minimizing cultural and biological conflict areas
- Waterfront facilities improvements plan, including facilities that could support construction and staging, manufacturing of components, final assembly, and operations and maintenance

[11] AB 525 Planning Goals Report and Adoption Resolution.
[12] AB 525 Port Readiness Plan.

- Transmission planning in consultation with the California Public Utilities Commission (CPUC) and the Independent System Operator, to assess transmission investments and upgrades necessary, including potential subsea transmission options
- Permitting, which entails developing and producing a permitting roadmap that describes timeframes and milestones for a coordinated, comprehensive, and efficient permitting process for offshore wind energy facilities
- Potential impacts on coastal resources, fisheries, Native American and Indigenous peoples, and national defense, and outline strategies to address those impacts

Generation Timeline

Based on the CEC's goal of 2-5 GW by 2030 and 25 GW by 2045 the BOEM Environmental Studies Program Report assessed a range of deployment scenarios for California between 2030 through 2050 (Table 7).[13] These scenarios are based on low to high adoption of OSW generation. Other supporting infrastructure development, including port facilities, is estimated based on each of these scenarios. While 2030 estimates are fairly low, generation is expected to increase significantly by 2035 and beyond.

Table 7: California OSW Deployment Targets

Year	Low (0.5 GW/yr)	Low-Medium (1 GW/yr)	Medium (1.5 GW/yr)	Medium-High (2 GW/yr)	High (2.5 GW/yr)
2030	1 GW	2 GW	3 GW	4 GW	5 GW
2035	3.5 GW	7 GW	10.5 GW	14 GW	17.5 GW
2038	5 GW	10 GW	15 GW	20 GW	25 GW
2045	8.5 GW	17 GW	25.5 GW	34 GW	42.5 GW
2048	10 GW	20 GW	30 GW	40 GW	50 GW
2050	11 GW	23 GW	33 GW	44 GW	55 GW

Source: BOEM Environmental Studies Program Report Template 2021

Based on the report's inventory of potential port sites, California has a sufficient number of existing ports that have the potential to be developed to meet the deployment targets. However, the offshore wind port sites require a significant amount of investment to upgrade and improve the existing infrastructure to serve the offshore wind industry, as detailed in the following sections.

Required Investments

According to NREL's West Coast Ports Strategy Study, it is estimated that a capital investment of $4 million is required for every 1 MW of installed floating offshore wind energy. Therefore, California's 2045 target of 25 GW (Table 6) of floating offshore wind requires a capital investment of approximately $100 billion.[14] This number only includes direct costs of component procurement and installation. This encompasses turbines, platforms, cables, mooring, anchors, onshore and offshore substations. However, it does not include indirect infrastructure costs, including port upgrades to accommodate the manufacture, integration, and service of wind turbines, transmission grid investments to accommodate the new energy source, cable landings, or vessel fleets required for offshore wind construction.

To put the required port investment into perspective, it is anticipated that capital investment into ports will represent approximately 10 percent to 15 percent of the direct costs. When full project costs are considered (direct capital costs, cable landing, transmission improvements, and vessel fleet construction), the port investment component is a relatively small portion of the overall capital investment.[15]

[13] BOEM Environmental Studies Program Report Template 2021.
[14] The Impacts of Developing a Port Network for Floating Offshore Wind Energy on the West Coast of the United States
[15] AB 525 Port Readiness Plan

The West Coast currently has no offshore wind generation capacity. However, California and Oregon are both in planning or site controls stages for about 9 GW of installed capacity, of which 6 GW are in California and in the site control stage, as shown in Table 8 and Figure 12.

Table 8: U.S. Offshore Wind Energy Project Pipeline for the West Coast

No	State	Name	Developer	Lease Area	Offtake Agreement	Status	Capacity
56	OR	Proposed Lease Area	TBD	OCS-P 0566	TBD	Planning	991 MW
57	OR	Proposed Lease Area	TBD	OCS-P 0567	TBD	Planning	2,166 MW
58	CA	California North Floating	CIP	OCS-P 0562	TBD	Site Control	1,117 MW
59	CA	Canopy Offshore Wind	RWE	OCS-A 0561	TBD	Site Control	1,025 MW
60	CA	Golden State Wind	EDPR/ENGIE	OCS-P 0564	TBD	Site Control	1,302 MW
61	CA	Even Keel Wind	Invenergy	OCS-P 0565	TBD	Site Control	1,302 MW
62	CA	Atlas Winds	Equinor	OCS-P 0563	TBD	Site Control	1,296 MW
63	CA	CADEMO	Floventis, Cierco, SBM	State Lease	TBD	Permitting	60 MW

Source: Offshore Wind Market Report: 2024 Edition

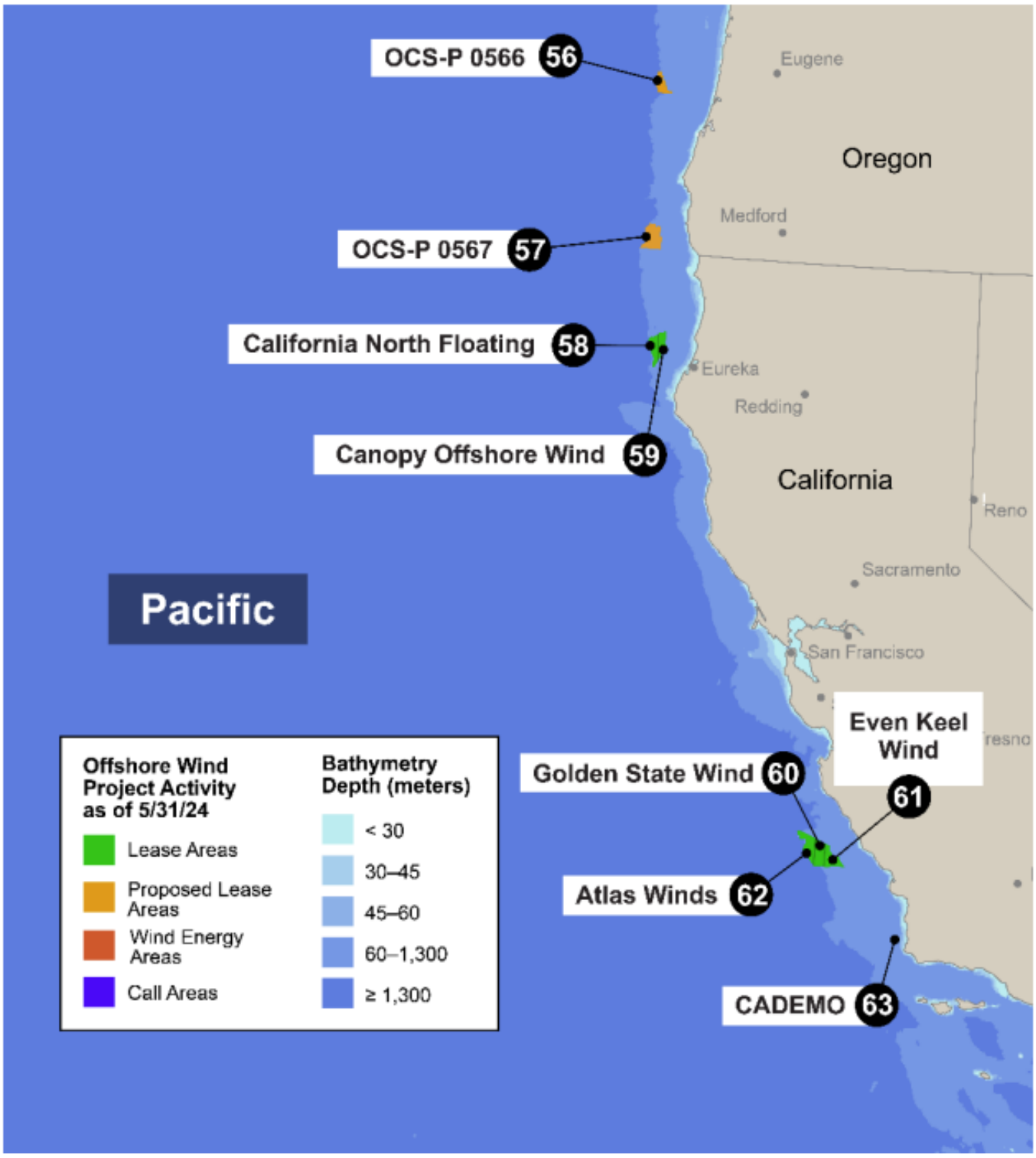


Figure 12: U.S. Offshore Wind Energy Pipeline – Pacific (source: Offshore Wind Market Report: 2024 Edition)

Existing and Planned Investments

BOEM is responsible for selecting areas of the ocean that are appropriate for wind energy development (WEAs) and for leasing these WEAs to project developers, as well as reviewing and approving plans for offshore wind farms in federal waters. WEAs are areas designated by BOEM as suitable for commercial wind energy activities while presenting the fewest apparent environmental and user conflicts.

To date, the BOEM has identified two offshore WEAs off the coast of California. The Humboldt WEA is located approximately 20 miles offshore of the northern California coastline, specifically near Humboldt Bay, and covers 132,369 acres (206.8 square miles). The Morro Bay WEA, located approximately 20 miles offshore of the central California coastline, covers about 240,898 acres.

In December 2022, BOEM leased five offshore wind areas, two within the Humboldt WEA and three within the Morro Bay WEA. The size of each lease area ranged from 63,338 to 80,418 acres. The estimated combined capacity of these five WEAs is about 6 GW.[16] These sites are summarized in Table 9 and displayed in Figure 13.

Table 9: California WEA Lease Sites and Status

Lease Area	Name	Developer	Area	Status	Capacity	Winning Bid
OCS-A 0561	Canopy Offshore Wind	RWE	63,338	Site Control	1,025 MW	$158M
OCS-P 0562	California North Floating	CIP	69,031	Site Control	1,117 MW	$174M
OCS-P 0563	Atlas Winds	Equinor	80,062	Site Control	1,296 MW	$130M
OCS-P 0564	Golden State Wind	EDPR/ENGIE	80,418	Site Control	1,302 MW	$150M
OCS-P 0565	Even Keel Wind	Invenergy	80,418	Site Control	1,302 MW	$145M

Source: Offshore Wind Market Report: 2024 Edition

Following the January 2025 OSW Executive Order issued by the office of President Trump (see Appendix A), effectively all developer-led investment in these five OSW sites has been halted indefinitely. Based on Spring 2025 conversations with several of these developers, it is clear that no additional investment will be made by the developer community unless or until a clear path to federal permitting is restored. Because of this, there is currently no predictable timeframe for when – or if – floating offshore wind will move forward within the existing wind energy areas off the coast of California or anywhere else within Federal waters.

[16] Offshore Wind Market Report: 2024 Edition

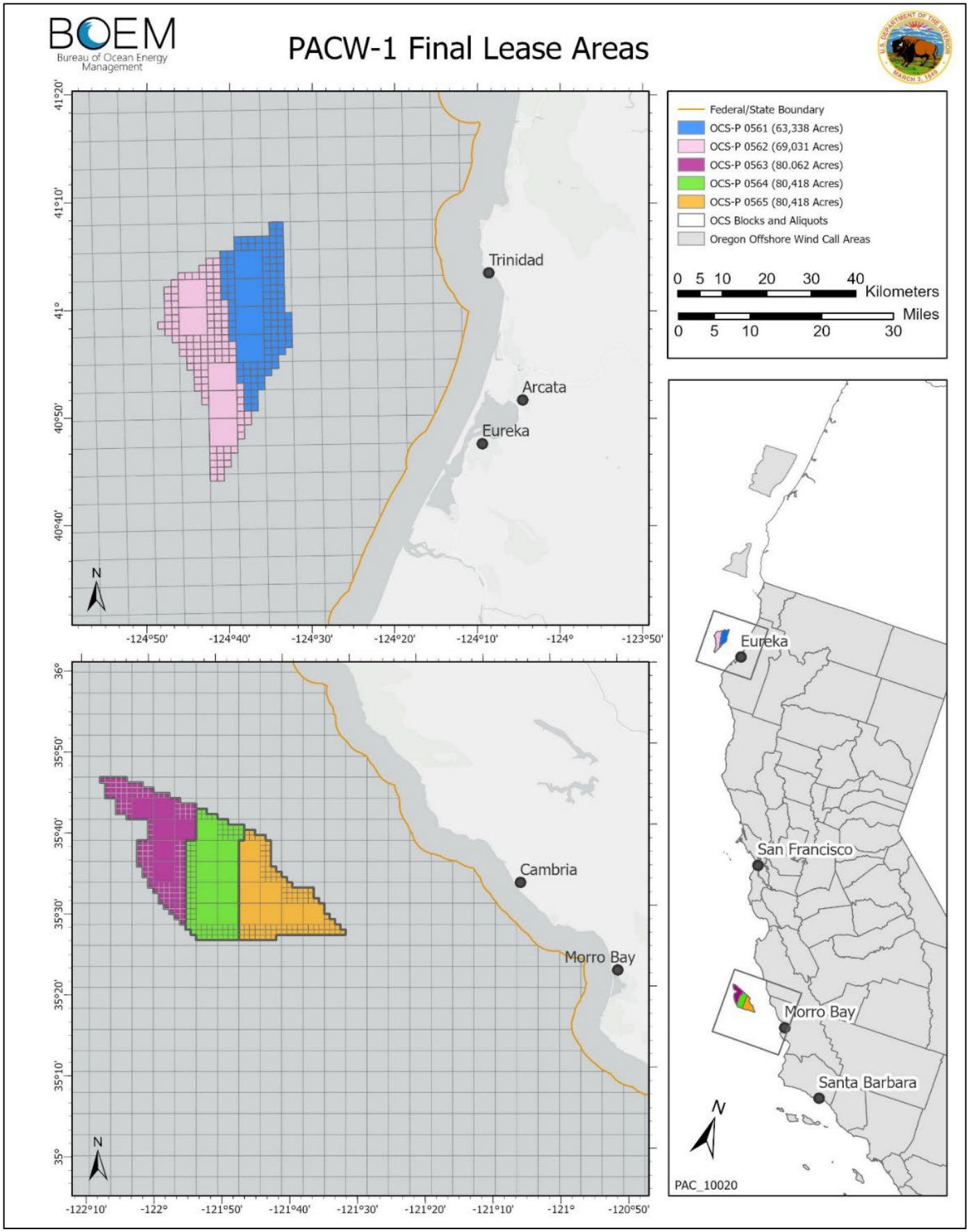


Figure 13: California Final Lease Areas for OSW (source: California Activities | Bureau of Ocean Energy Management)

Role of Ports in OSW Development

As of 2023, the USDOE estimated that $2.1 billion had been invested nationally for offshore wind infrastructure related to port development, vessel orders, workforce development, research, and other supply chain elements.[17] As the State of California advances its offshore wind goals, significant investment highlights the growing opportunities for local ports to play a key role in supporting this emerging industry.

The AB 525 Port Readiness Plan.[18] establishes the goal of having waterfront facilities (i.e. ports) support the construction and staging, manufacturing of components, final assembly, and operations and maintenance needs for the development and deployment of floating offshore wind off of California's coast. According to the AB 525 Plan, there are three types of ports required to support floating offshore wind energy development, these include:

- Staging and Integration (S&I)
- Manufacturing/Fabrication (MF)
- Operation and Maintenance (O&M)

The Port of Benicia has been identified as a potential MF site, but is not considered viable as an S&I or O&M port. Because of this, this section focuses on MF port requirements. See Appendix B for additional details related to other OSW port types.

Manufacturing/Fabrication (MF) Sites

MF sites are ports located on a navigable waterway that receives raw materials via road, rail, or waterborne transport and creates larger components in the offshore wind supply chain. This site typically includes factory and/or warehouse buildings and space for storage of completed components.

For such sites, the length of the wharf is dependent on the size of the delivery vessels and delivery barges. In general, the wharf and uplands area for component manufacturing sites shall have a capacity of 2,000—3,000 psf to support offshore wind turbine generator (WTG) components. For component manufacturing and S&I sites, a range of 30—100 acres will be needed depending on the developer and their use.

[17] Offshore Wind Market Report: 2024 Edition
[18] AB 525 Port Readiness Plan, California State Lands Commission and Moffat & Nichol

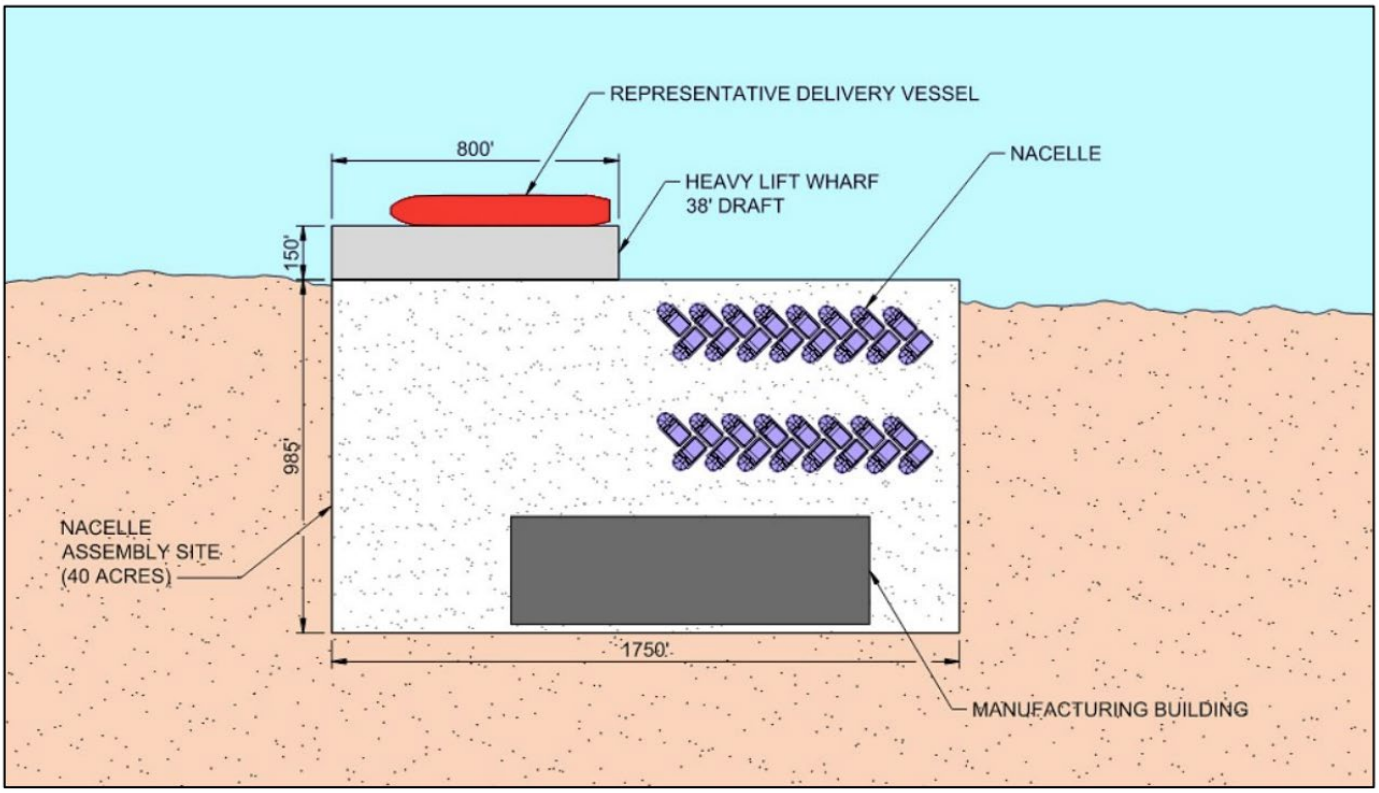


Figure 14: Sample 40-Acre Tower MF Site Layout (source: AB 525 Port Readiness Plan)

In addition, there are general port requirements that are common across all port roles undertaking offshore wind development:

- Roll-on/Roll-Off (Ro-Ro) Capabilities

  Port sites typically have ro-ro capabilities built into the wharf and yard to allow for a range of fabrication and assembly needs. Of particular importance would be to allow for inside port transfers between multiple facilities. This may require the construction of a sinking basin deeper than the proposed navigation channel depth.

- Green Ports

  New port terminals shall have infrastructure and equipment to support state and federal carbon reduction initiatives, including electrification of the terminal operations and the ability to accommodate vessel shore power. Considering greenhouse gas emission reduction initiatives and desire to develop green ports, considerable load on the transmission grid may be needed. An assessment of power grid upgrades for the proposed development site will be needed to assess the range of power transmission upgrades needed to meet the vessel and terminal operational needs.

- Shoreside Vessel Services

  Port sites will require all standard ship services (e.g., potable water), shore power and security requirements.

- Buildings

  Indoor storage/warehouses are required for some items (e.g., floating foundation mechanical equipment, painting, welding, etc.).

Given the infrastructure requirements for each port and the total number of such facilities that will be needed to meet California's targets, a coordinated multiport strategy will be needed and could require more than 16 large and 10 small port sites to support offshore wind development beyond the next decade. Importantly, staging and integration sites, and operations and maintenance sites are essential. However, MF sites are less essential since components can be imported.

Comparison of California Ports

Currently, existing port sites on the West Coast are not ready to serve the offshore wind industry from a port infrastructure perspective (i.e., wharf, navigation channel, backlands, etc.). All potential port sites will require some level of investment to upgrade existing facilities, such as construction of a new wharf to withstand heavier loading or dredging navigation channels and/or berth pockets. BOEM's Port Readiness Plan focuses its assessment on S&I, MF, and O&M sites.[19] The following general criteria were utilized to assess each port:

- Distance to nearest boundary of BOEM lease areas.
- Availability of adequate uplands with capability to support/be improved to support heavy loading operations.
- Adequacy of existing navigation channel, including entrance channel depth and width, channel depth and width for both existing and planned conditions including maintenance dredging requirements.
- Existing and planned infrastructure projects (bridges, airports, tunnels) that may impact operations.
- Air draft at bridges or other overhead obstructions (i.e. overhead power lines).
- Potential for port expansion or development of a new in-water area.

Table 10 summarizes this assessment for each Californian port. Based on the criteria, the Port of Benicia's distance from the two WEAs and the port's relatively small area for development (20 acres), the Port of Benicia is best suited as a Manufacturing / Fabrication (MF) site.

Table 10: Summary of Potential California Offshore Wind MF Port Sites

Port Location	Bridge Vertical Clearance (ft)	Distance to Humboldt WEA (Nautical Miles)	Distance to Morro Bay WEA (Nautical Miles)	Channel Depth (ft)	Possible Site Types	Potential Sites
Antioch	132	295	200	35	MF	(1) 100-acres MF site
China Harbor	None	425	30	See ****	S&I	(1) 80-acres S&I site
City of Alameda	174	255	160	20-30	O&M	(1) O&M site
City of Morro Bay	None	430	55	15-24	O&M	(1) O&M site
City of Pittsburg	132	290	195	35	MF	(1) 100-acres MF site
Crescent City Harbor District	None	50	400	14-20	O&M	(1) <10-acres O&M site
Diablo Canyon Power Plant	None	445	70	< 25	O&M	(1) O&M or construction support site
Ellwood Pier	None	595	150	See ****	O&M	(1) O&M site
Gato Canyon	None	590	145	See ****	S&I	(1) 80-acres S&I site
Monterey Harbor	None	345	75	< 10	O&M	(1) O&M site
Moss Landing Harbor	None	340	85	15	O&M	(1) O&M site
Pillar Point Harbor	None	280	115	20	O&M	(1) O&M site
Port of Benicia	132	275	180	45	MF	(1) 20-acres MF site
Port of Hueneme	None	570	200	30-45	O&M	(1) O&M site. Not a candidate for MF, however an assessment of military uses was not addressed in this study.
Port of Humboldt	None	25	360	38 - 48	S&I, MF, O&M	(4) 80-acres S&I / MF sites and (6+) <10-acres O&M sites
Port of Long Beach	See **	580	225	> 50	S&I, MF	(1) 400-acres S&I / MF site (1) 20-acres MF site
Port of Los Angeles	See *	580	225	> 50	S&I, MF	(1) 100-200-acres S&I / MF site (2) 10-30-acres MF sites

Source: AB 525 Port Readiness Plan

[19] AB 525 Port Readiness Plan

Project Development Process and Timing

To meet California's offshore wind deployment goals, the timing of when these offshore wind port sites are available to the industry is critical. While S&I sites are the most critical type, if a domestic supply chain is to be established within California, MF sites would need to be available by late 2020s to mid-2030s to supply components to the initial and future offshore wind projects.

To plan, design, and construct these offshore wind port sites, the following general stages are involved:

- Secure funding for project implementation
- Project planning, conceptual design, and vetting of project alternatives
- Consultation with Native American tribes
- Federal and/or state environmental review and compliance
- Coordination with permitting agencies and affected stakeholders; detailed engineering
- Obtaining project permits
- Construction

While detailed studies/planning is needed for each of these steps, the California Floating Offshore Wind Regional Ports Feasibility Analysis.[20] compared required port infrastructure, associated cost, and environmental impacts across California's ports. The permitting process is relatively common across ports. All other steps of project development are more unique to each site and need to be thoroughly studied accordingly.

Port Infrastructure Requirements

All ports featured in Figure 15 were evaluated to determine the required improvements and estimated costs to develop their respective sites for development of the offshore wind industry, specifically for manufacturing/fabrication roles. The evaluation for site improvements required at Port of Benicia is summarized below:

- Port of Benicia, Port of Stockton, Port of Richmond, Port of Redwood City
    - Site Acreage

      Based on previous outreach to the Port of Benicia and Port of Redwood City, potentially 20 acres of existing uplands space may be available for an MF site. For the Port of Stockton and Port of Richmond, potentially 14 of the 40 acres of existing uplands space may be available for an MF site. The uplands area shall support at least 2,000 to 3,000 psf.

      Berth Pocket Dredging: The berth pocket at the wharf shall be dredged to a minimum water depth of 38 ft.

[20] Source: California Floating Offshore Wind Regional Ports Feasibility Analysis, 2023

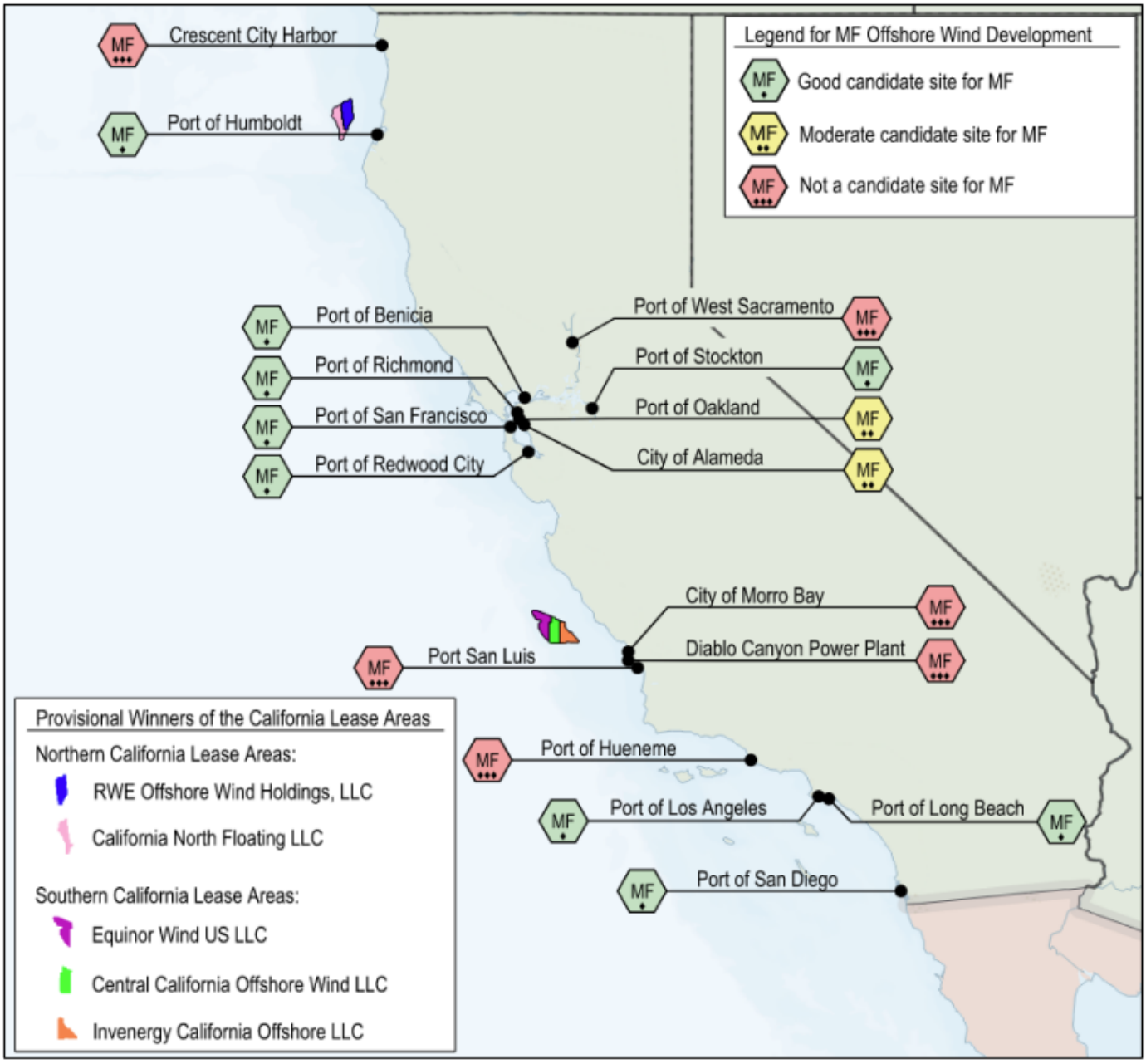


Figure 15: Candidate Status of California Ports (source: BOEM Environmental Studies Program Report Template 2021)

Costs

The BOEM Regional Ports Feasibility Analysis[21] assessed each port site to determine the infrastructure improvements required to meet the criteria in the previous section and developed cost estimates and general construction durations. The study developed cost estimates for all ports types. However, since Benicia is best suited as an MF port (as per Table 10), only MF port costs are detailed below.

Cost estimates were developed to an Association for the Advancement of Cost Estimating (AACE) Class 5 level of accuracy. The typical expected cost variation for such Class 5 estimate is -20% to -50% on the low range and +30% to 100% on the high range.

[21] BOEM-2023-038

Table 11: MF Site Infrastructure Requirements and Associated Cost Estimates

Item	Port of Redwood City	Port of Benicia	Port of Stockton	Port of Richmond	Port of Oakland	Port of San Francisco	Port of San Diego	Antioch	Pittsburg
Site Acreage	20 acres	20 acres	40 acres	40 acres	40 acres	95 acres	40 acres	100 acres	100 acres
Site Load Capacity	2,000 - 3,000 psf	2,000 - 3,000 psf	2,000 - 3,000 psf	2,000 - 3,000 psf	2,000 - 3,000 psf	2,000 - 3,000 psf	2,000 - 3,000 psf	2,000 - 3,000 psf	2,000 - 3,000 psf
Wharf Length	800 ft	800 ft	800 ft	800 ft	800 ft	800 ft	800 ft	800 ft	800 ft
Wharf Capacity	6,000 psf	6,000 psf	6,000 psf	6,000 psf	6,000 psf	6,000 psf	6,000 psf	6,000 psf	6,000 psf
Berth Pocket Dredging	-38 ft	-38 ft	-38 ft	-38 ft	-50 ft	-40 ft	-38 ft	-38 ft	-38 ft
Total Cost Estimate	$300M	$325M	$350M	$375M	$350M	$480M	$275M	$520M	$520M
Cost Accuracy Range	$200M to $450M	$225M to $500M	$250M to $525M	$275M to $575M	$250M to $525M	$350M to $720M	$200M to $425M	$375M to $$800M	$375M to $800M
	-30%/+50%	-30%/+50%	-30%/+50%	-30%/+50%	-30%/+50%	-30%/+50%	-30%/+50%	-30%/+50%	-30%/+50%
Cost Per 20 Acres	$300M	$325M	$300M	$320M	$300M	$290M	$225M	$300M	$300M
Cost Per 40 Acres	N/A	N/A	$350M	$375M	$350M	$345M	$275M	$350M	$350M

Source: California Floating Offshore Wind Regional Ports Feasibility Analysis, 2023

From an infrastructure investment perspective, the cost of site improvements to Benicia is similar to other port sites in California. Thus if California continues to pursue its current 2045 target of 25GW, there will likely be demand for an MF site near Benicia. Other ports in California will also need to develop, and those with larger sites/more available land could – and likely will – manufacture towers and blades while those closer to the final installation site are expected to serve as S&I sites (i.e. Humboldt, Long Beach). Benicia as an MF site for smaller components would fit well into this supply chain. It is important to note that this market will primarily be determined by California's policy incentives and continued push towards OSW.

Environmental Impact

The environmental evaluation and site ranking was completed using a comparative approach for the previously identified California candidate sites. Within each port site type (S&I, MF, O&M), each potential site location was evaluated using a standard set of environmental factors and then compared to the other potential locations of the same type. The potential site locations were then ranked in order of likely severity of potential environmental concerns. The environmental factors were selected to allow a standardized comparison across all sites, and they were adjusted based on the conceptual size and extent of construction required for each port site type. All eight factors were given equal weight in the ranking process. Table 12 below presents the overall rankings of the 10 ports considered best candidates for OSW MF activity.

Table 12: Overall MF Site Comparative Rankings

Manufacturing Sites	Impact Tier
Ports of LA & LB	**Least Impact**
Port of Benicia	**Least Impact**
Port of San Francisco	**Least Impact**
Port of Humboldt	**Medium Impact**
Pittsburg	**Greatest Impact**
Antioch	**Greatest Impact**
Port of Richmond	**Greatest Impact**
Port of Stockton	**Greatest Impact**
Port of Redwood City	**Greatest Impact**

Note: Rankings of Least Impact, Medium Impact, and Greatest Impact were within this table).

Permitting

The environmental review process can be initiated with the applicable federal, state, and/or local lead agencies after project funding has been secured, and the conceptual design has progressed to allow for the development of a project description. The timeline for environmental review is outside the control of the developing port. In addition to compliance with NEPA, port improvements in California will require compliance with CEQA. When a project requires multiple federal, state, regional, and/or local approvals, joint NEPA/CEQA environmental review processes are encouraged where feasible to help avoid redundancy, improve efficiency and support interagency cooperation.

Projects of similar size and scale previously developed near the proposed sites considered in this study have taken from three to over ten years from project planning to securing all permits and environmental approvals for construction. Considering the regulatory environment in California, the window for securing all required approvals could range from four to eight years for MF sites.

U.S. Domestic Wind Turbine Supply Chain

Over the years, the U.S. wind energy market has expanded significantly, evolving into a highly complex supply chain. Today, more than 500 manufacturing facilities across the country support turbine assembly and produce key wind components, including blades, towers and generators.[22]

[22] Wind Manufacturing and Supply Chain | Department of Energy

This growing domestic supply chain has boosted the U.S.-sourced content in wind turbines installed nationwide, with over 80 percent of nacelle assembly and up to 70 percent of tower manufacturing now taking place within the U.S.[23] Federal incentives from the previous administration may have influenced this growth in production. The IRA included production-based tax credits (PTC) that supported domestic manufacturing of key wind turbine components, including nacelles, blades, and towers.[24] It also extended the PTC for wind power deployment, inclusive of a 10 percent bonus on top of the full-value PTC for wind projects that met domestic content requirements (a separate 10 percent bonus was available for projects located in energy communities). Figure 16 identifies the many wind turbine component manufacturing, assembly, and other supply chain facilities operating in the U.S. as of the end of 2023. It also highlights the geographic breadth of the supply chain.

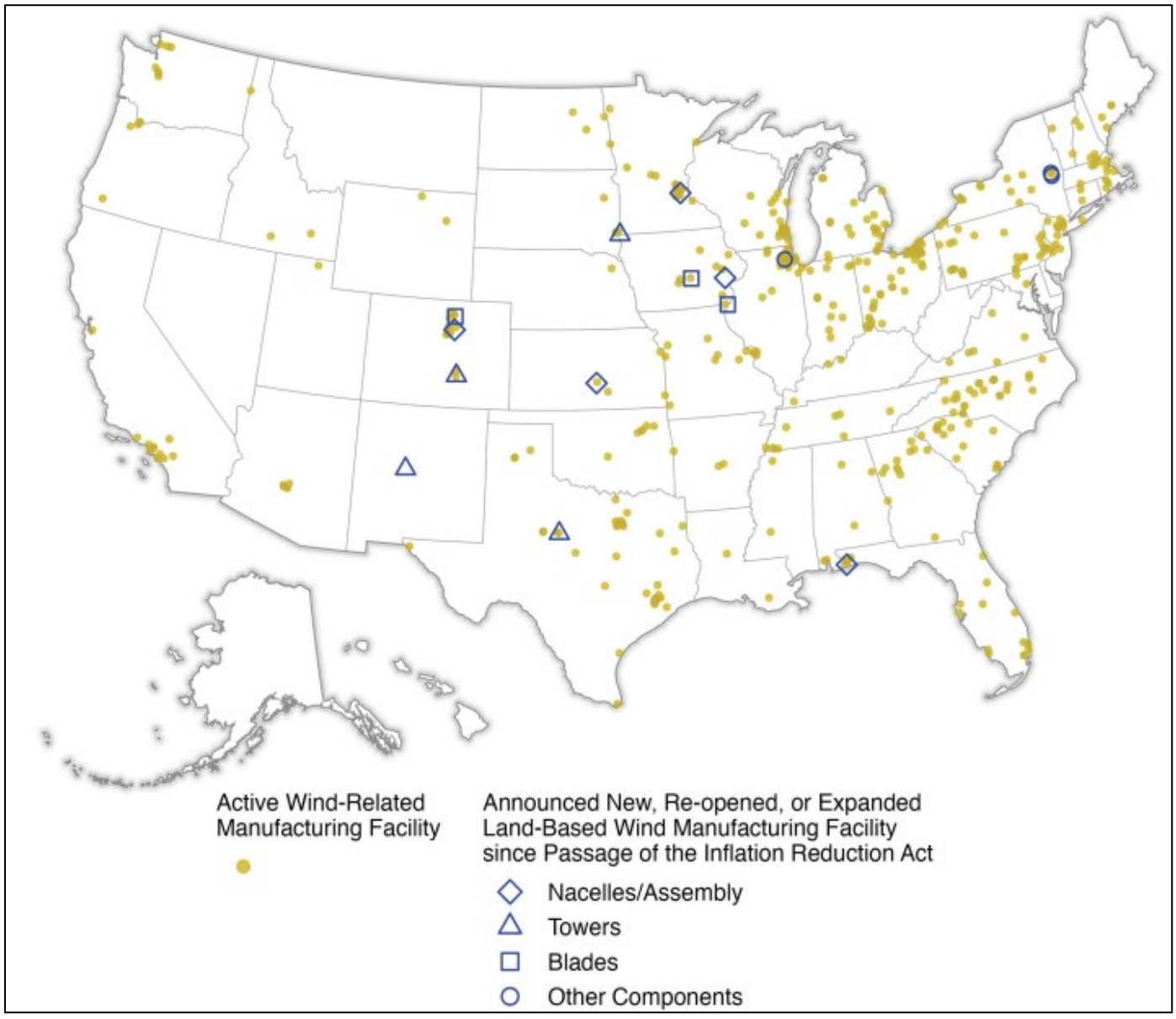


Figure 16: Location of Turbine and Component Manufacturing Facilities, 2022 (source: U.S. Department of Energy, ACP)

[23] Wind Manufacturing and Supply Chain | Department of Energy
[24] Land-Based Wind Market Report_2024 Edition.pdf

Original Equipment Manufacturers (OEMs)

There are four major original equipment manufacturers (OEMs) in the U.S. wind turbine sector. Of the 6.5 GW of wind installed in 2023, GE Vernova supplied 58 percent, followed by Vestas (30 percent), Nordex (nine percent), and Siemens Gamesa Renewable Energy (SGRE, four percent). GE Vernova and Vestas have dominated the U.S. market for some time, with SGRE and Nordex vying for the third spot. Notably, while three of these providers have significant operations and manufacturing capacity domestically, Nordex has scarce domestic manufacturing presence.

Supply-Demand Balance

Domestic turbine nacelle assembly capacity represents the highest number of nacelles that U.S. manufacturing plants can assemble annually when running at full operational capacity. This value grew from less than 1.5 GW in 2006 to more than 13 GW in 2012. In 2015, it fell to approximately 10 GW and then rose to 15 GW in 2018. Since, it has held largely steady.

Figure 17 contrasts this equipment manufacturing capability with past U.S. wind additions as well as near-term forecasts of future installations. It demonstrates that domestic manufacturing capability for towers and nacelle assembly remains relatively balanced with near-term projected wind additions, but that blade manufacturing capability has dropped well below near-term wind additions as international suppliers outcompete domestic ones.

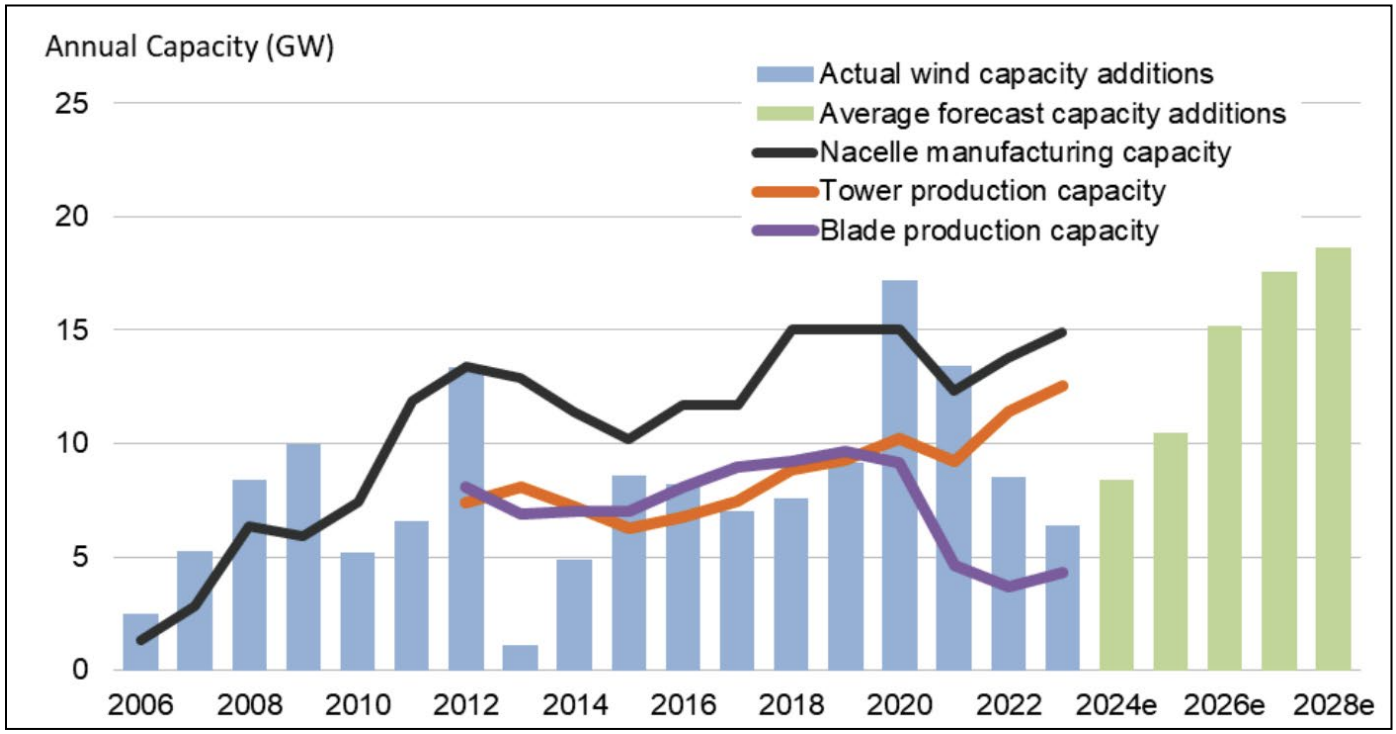


Figure 17: Domestic Wind Manufacturing Capabilities vs U.S. Wind Power Capacity Installations (source: ACP, Independent analyst projects, Berkeley National Lab)

Imports

Despite the scale of the domestic wind industry supply chain, the U.S. wind power industry remains dependent on imports. Imports of wind-related equipment (tracked through trade codes) have fallen from a recent high of $5.5 billion in 2020 to $1.7 billion in 2023; the lowest level since 2013 (Figure 18).

Imports in recent years have largely mirrored annual capacity additions, with import value per gigawatt ($/GW) holding stable since 2021. From 2014 through 2023, imports of wind-related turbine equipment followed U.S. wind installation trends, bouncing back from the low of 2013 and then with a marked decline from 2020 through 2023. This suggests, if new procurement contracts are established, imports would also increase accordingly.

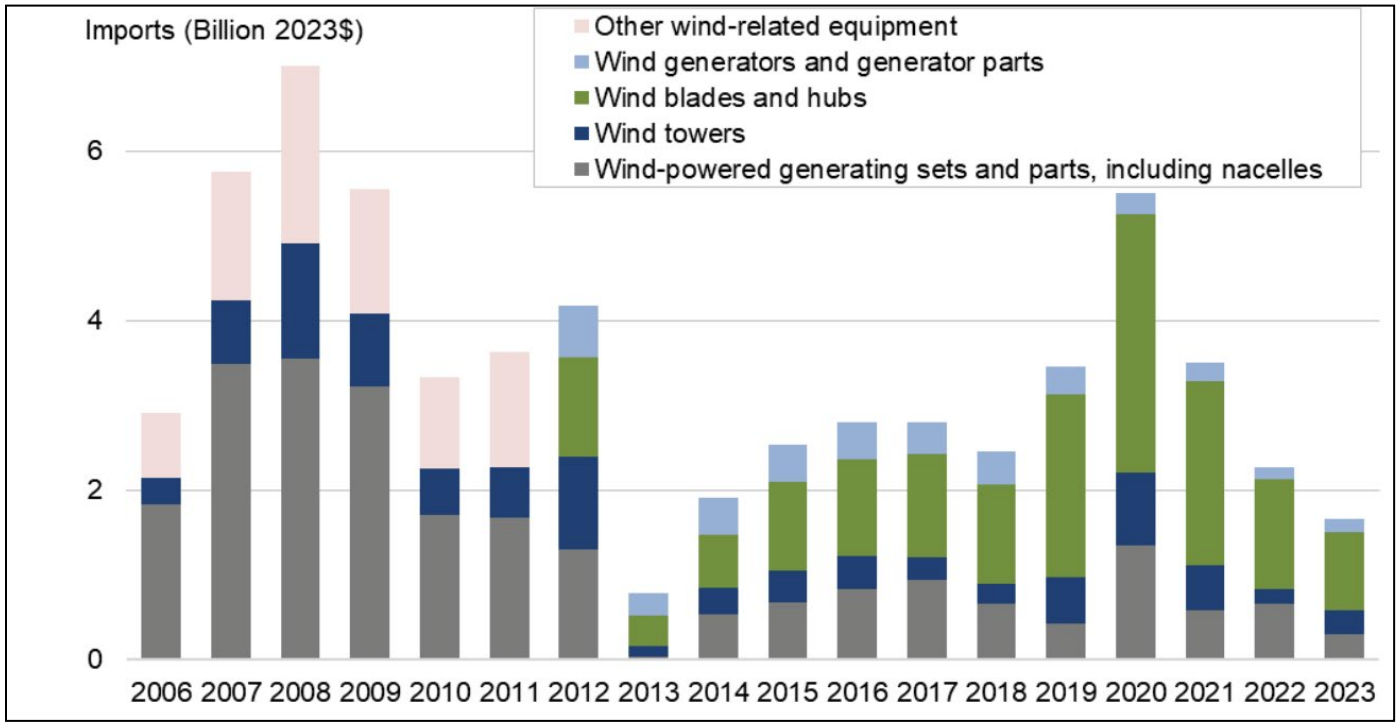


Figure 18: Import of Wind-Related Equipment Tracked Using Trade Codes (source: Berkeley National Lab analysis of data from USA Trade Online)

Note: wind-related trade codes and definitions are not consistent over the full period.

Supply Chain Issues

The 2022 Wind Energy Supply Chain Deep Dive Assessment by the U.S. Department of Energy (USDOE)[25] reveals several vulnerabilities, some of which can be opportunities for Benicia. These vulnerabilities manifest differently for offshore and land-based wind, given their current domestic supply chain status (i.e. absent or nascent for offshore wind, significant and mature for land-based wind), but several common themes emerge from the report regarding the most crucial supply chain vulnerabilities for the U.S.

- Uncertainty in the wind energy project pipeline limits incentives for new supply chain investments; in fact, near-term domestic manufacturing capacity could decline due to projected decreases in annual installations in 2022 and 2023. This trend continues with 2024 being the lowest year for wind capacity addition, according to the American Clean Power Association.[26]
- Low labor costs from overseas competitors threaten competitiveness of domestic suppliers, especially for labor-intensive operations such as blade manufacturing.
- Logistics networks for land-based wind turbine components are increasingly strained due to the increasing size of components.
- Offshore wind component logistics require specialized infrastructure, particularly for ports and vessels, that do not yet exist in the United States. The operation of foreign-flagged vessels for the installation of offshore wind turbines in domestic waters is limited by the Jones Act.[27]
- Collaboration with the private sector can accelerate wind component manufacturing opportunities for ports and support the redevelopment of existing ports —this is where Benicia has an opportunity compared to land-based sites. When OSW procurement picks up in California, the OEMs would prefer to set up facilities at or near ports.

[25] EERE Technical Report USDOE
[26] US Wind Energy Monitor 2024
[27] https://www.cbp.gov/sites/default/files/2024-12/Jones%20Act%20ICP_Complete_04DEC24.pdf

- Depending on offshore wind procurement levels, Benicia is well-positioned to import subcomponents and perform on-site nacelle assembly at the port, serving Wind Energy Areas along the West Coast.

Key Takeaways Related to Port of Benicia's Role in Supporting Wind Energy

Based on publicly available existing documentation and research conducted by the GHD team as part of this Modernization plan, the following inferences are relevant to Benicia in the context of California's wind energy development goals.

- Benicia is best suited to serve as a Manufacturing/Fabrication (MF) site in support of OSW.
- Given its long distance from the two designated wind energy areas – or WEAs – relative to other ports, the Port of Benicia is not well suited to serve as an O&M port. Additionally, due to a smaller developable footprint (approximately 20 acres) compared to other larger ports (40–80 acres) and its vertical clearance restrictions as dictated by the Carquinez Bridge (140 feet), Benicia is not suitable for S&I activity.
- The Port of Benicia only has sufficient available land to manufacture smaller wind turbine components, such as nacelles, electrical cables or mooring lines.
- From a demand-supply perspective, based on available data for onshore nacelles, domestic manufacturing has kept pace with installations and is forecast to remain the same based on existing procurement contracts. Thus, unless new on-shore procurement contracts are set up for sites near Benicia, there is a very low incentive for manufacturers to set up a new manufacturing facility at Benicia for onshore nacelles.
- When OSW procurement picks up there could be a role for Benicia in the supply chain. There are no Tier 1 OEM manufacturing facilities in California. A nacelle assembly facility on the California coast would be advantageous once OSW procurement begins on the West Coast.
- Ports are usually responsible for providing a fully developed parcel, including wharf infrastructure, dredging, and ground-strengthened (3,000-6,000 psf) upland areas necessary to support Tier 1 component manufacturing. MF manufacturing plant proposals typically allocate 20-30 acres. Benicia would need to partner with one of the three OEMs (GE Vernova, Vestas, or Siemens Gamesa) that have domestic manufacturing to consider the port as a possible location to develop a nacelle manufacturing facility for OSW.
- High-level cost estimates for infrastructure development are similar across the assessed ports. The infrastructure upgrade costs for most ports in California are between $290-$325 million. Port of Benicia is neither at a specific cost advantage nor disadvantage.
- Currently the only other ports with OSW infrastructure development underway are planning to fill an S&I function to serve the immediate needs of the OSW supply chain. No port in California has detailed plans for MF site development.
- The Port of Benicia is among the least environmentally impactful California ports for MF activity.
- If Benicia is to develop as an MF port, permitting can take 4-8 years, and as per BOEM reports, demand for MF sites will begin from 2030 and 2032. In terms of market timeline, Port of Benicia is at a suitable stage to play a role in OSW supply chain as an MF port when demand for such facilities will be realized post-2032.
- As the owner of most of the land adjacent to the Benicia tidelands within the port, AMPORTS would be the signing party in any land-related agreements to set up manufacturing facilities at the Port of Benicia. They could also be potentially responsible for initial site development work. Thus, any manufacturing facility development at the port would require close coordination and complete buy-in between the OEMs, AMPORTS and the City from early in the process.

Other Manufacturing Possibilities

Separately from OSW, there is also an opportunity for the Port of Benicia to position itself as a steel component manufacturer for developing industries in the region. For example, California Forever, a company that owns 60,000 acres in Solano County, is proposing to build a 1,400 acre shipbuilding complex (Figure 19).[28] If this is developed, the maritime movement of bulk and manufactured steel would significantly increase in the region. Neighboring Mare Island, also in Solano County, which historically was a shipbuilding facility, is planning to leverage its existing infrastructure along with this proposal to revitalize economic growth.[29] Benicia sits in between these two sites.



Figure 19: Location of California Forever's Proposed Shipbuilding Site (source: California Forever)

California Forever's proposal situates the shipyard in the city of Collinsville, 17 miles upstream of Benicia. If major shipbuilding facilities are developed in Solano County, Benicia could serve some component of the supply chain, such as component assembly, modular fabrication, or advanced manufacturing operations.

Currently, most subcomponents of shipbuilding are imported from outside the U.S., primarily from China. If the shipyard is established, Benicia could either play a staging role to receive and store these imported components, or even raw materials such as steel, and smaller prefabricated components. Depending on the demand for berths at Benicia, it could also serve as a docking facility for ships coming in for repairs or in the delivery of finished vessels during sea trials and equipment loading.

[28] The location of the Solano Shipyard - California Forever
[29] Mare Island dreams of a comeback, but Solano Shipyard looms larger – The Vacaville Reporter

Cities neighboring the site, such as Fairfield, Suisun City, and Rio Vista, passed resolutions supporting shipbuilding in the county.[30] However, Solano County administration is waiting for more details from the developer, federal funding, and legislative support. Late last year, federal lawmakers proposed the SHIPS for America Act.[31], which would provide tax credits, financial incentives, and revolving funds to boost domestic shipbuilding and repair. However, the act is still in the legislative process, and the shipyard at Collinsville is still at the proposal stage by California Forever. Thus, there is a need for further studies to determine the growth of shipbuilding in the region and whether Benicia fits into the supply chain.

Given the lack of plans, approvals, or clear funding sources, a future shipbuilding facility in the region is currently uncertain. However, if the project moves ahead, Benicia is well-suited to partner with different manufacturers in the shipbuilding supply chain to develop appropriate facilities at the port.

[30] California Forever's Shipbuilding Plans Need More Details, Solano County Officials Say | KQED
[31] SHIPS for America Act to Revitalize US Shipbuilding and Commercial Maritime Industries

Potential for Refinery Conversion

Introduction

Valero Energy has officially submitted notice to the California Energy Commission (CEC) of its current intent to idle, restructure, or cease refining operations at the Valero Benicia refinery by the end of April, 2026. According to statements released by Valero, the refinery is seeking closure due to high costs and strict environmental regulatory pressure in California. According to a statement from Valero the closure "follows years of regulatory pressure, significant fines for air quality violations, and a recent lawsuit settlement related to environmental concerns." This decision is part of a broader strategic review of the company's operations in California.

In response to this potential cessation of operations, the City of Benicia has requested that the GHD team review case studies supporting possible conversion of the existing facility to an import terminal. This document provides a high-level summary of the potential to convert the Benicia refinery into a liquid bulk import terminal based on case studies both from within the U.S. and outside the U.S. Further evaluation of Valero's private terminal operations, their ability to be repurposed and/or what role the City of Benicia may or may not need to play in such repurposing is outside the scope of work of this Modernization plan.

Conversion Examples (U.S.)

Martinez Refinery (Martinez, CA)

Marathon Petroleum Corporation (MPC) is converting the Martinez Refinery in Contra Costa County, California, into a renewable fuels manufacturing facility. This project is part of MPC's broader strategy to reduce carbon intensity and align with California's clean energy goals.

Key Project Details:

- Production Capacity
    - Up to 730 million gallons per year of lower carbon-intensity renewable fuels, primarily renewable diesel.
- Feedstock
    - Includes animal fats, soybean oil, corn oil, and used cooking oil.
- Environmental Benefits
    - 60% reduction in greenhouse gas emissions
    - 70% reduction in critical air pollutants
    - 1 billion gallons/year reduction in water use
- Refined feedstocks and products are to be transported to and from the refinery using a combination of trucks, rail, marine vessels, and pipeline

Landside Infrastructure Needs/Modifications:

- Modifications to existing processing units
- Installation of new units
    - Renewable feedstock pretreatment unit
    - Wastewater treatment equipment
    - Advanced three-stage low-Nox thermal oxidizer

- Demolition/removal of obsolete units
    - Crude unit
    - Gasoline hydrotreater
    - Alkylation unit
    - Fluidized catalytic cracking unit
    - Reformers
    - Delayed Coker
    - Steam boilers

Marine Infrastructure:

- The refinery uses two marine terminals for materials shipping and receipt – the Avon and Amorco Marine Terminals. The Amorco Marine Terminal had to be converted from receiving uses to distribution uses primarily. The changes to the two terminals require amendments to the lease agreements between Marathon and the State Lands Commission (SLC). Any significant change, modification, or re-design to the built facilities at these terminals where subject to the Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) And required SLC review.

Timeline (Permitting to Production):

1. Land Use Permit Application submitted in November 2020
2. Notice of Preparation of Draft Environmental Impact Report (EIR): February 2021
3. Approval of Final Environmental Impact Report (EIR): May 2022
4. Production Start: 2022
5. Full Capacity: Achieved by year-end 2024

Permitting and Community Engagement:

- This project underwent a full Environmental Impact Report (EIR) process under CEQA to ensure transparency and community input.

Cost:

- Approximately $1.2 billion

Rodeo Refinery (Rodeo, CA)

Phillips 66 has transformed its San Francisco Refinery in Rodeo, California, into the Rodeo Renewable Energy Complex, one of the world's largest renewable fuels facilities. This project, known as Rodeo Renewed, is a major step in the company's strategy to reduce carbon emissions and expand renewable fuel production.

Key Project Details:

- Production Capacity
    - Initially 800 million gallons/year (over 50,000 barrels per day) of renewable fuels (including transportation fuels, including renewable diesel, renewable gasoline and sustainable aviation fuel).
- Feedstocks
    - Includes waste oils, fats, greases, and vegetable oils
- Sustainable Aviation Fuel (SAF)
    - Capability to produce up to 150 million gallons/year of SAF starting in Q3 of 2024.
    -

- Environmental Benefits
    - Reduce lifecycle carbon emissions by approximately 65%
    - 55% reduction in critical pollutant emissions
    - Reduction of water use by 160 million gallons/year

Landside Infrastructure Needs/Modifications:

- Modifications to existing processing units
- Installation of new units
    - Renewable feedstock pretreatment unit with Vapor Recovery Systems
    - Sulfur treatment units with 2-stage Thermal Oxidizer/SO2 Scrubber
- Removal of obsolete units
    - Crude unit
    - Molten sulfur pits
    - Sulfur recovery units
    - Carbon plant (Coke calciner)
    - Furnaces

Marine Infrastructure:

- Project proposed an increase in deliveries across the Marine Terminal that required a modification of the Bay Area Air Quality Management District permit for the Rodeo Facility. However, this interim increase is not a terminal expansion, nor does it require physical construction.

Timeline (Permitting to Production)

1. Submission of land use permit: August 2020
2. Notice of Preparation of Draft Environmental Impact Report (EIR): December 2020
3. Approval of Final Environmental Impact Report (EIR): May 2022
4. Final Investment decision made on Rodeo Project: 2022
5. Phased ramp-up of renewable feedstock processing. 2023-2024
6. Full Capacity reached: Q2 2023
7. SAF Production Begins: Q3 2024

Permitting and Community Engagement:

- This project underwent a full Environmental Impact Report (EIR) process under CEQA to ensure transparency and community input.

Cost:

- Approximately $850 million

Conversion Examples (non-U.S.)

While examples abroad won't reflect entirely the same transitions in terms of permitting and timelines, they are still worthwhile investigating for future conversion efforts.

Altona Refinery (Melbourne, Australia)

ExxonMobil is converting its former Altona oil refinery in Melbourne into the Mobil Melbourne Terminal, a major fuel import and storage facility. This transition reflects a broader industry trend of shifting from domestic refining to import-based fuel supply chains.

Key Features of Conversion:

- Work at the facility to allow Mobil to import fuel through deep-water port at Gellibrand wharf and store fuel in existing tanks before transferring it to another terminal has been completed.
- For this imported fuel effort, the existing tanks had to be prepared, along with the pipeline, for the storage and transfer of fuel by installing new pumps.
- Most facilities associated with the fuel refining process at Altona have been shut down and no longer operate but have been left in a safe state.
- Decommissioning work of the facility began in 2021 with the start of catalyst removal and continued through 2023.
- Decommissioning included the opening and inspection of vessels, tanks, and pipes to find and remove and traces of product left following shutdown

Tabangao Refinery (Batangas, Philippines)

After announcing the refineries closing in 2020 in 2021, Pilipinas Shell Petroleum Corporation (PSPC) completed the conversion of its Tabangao Refinery in Batangas City. The conversion saw the facility shift from a refining facility into a world-class import terminal known as the Shell Import Facility in Tabangao (SHIFT). This conversion was driven by declining regional refining margins and the need for a more resilient, flexible fuel supply model.

Key Features of Conversion:

- Storage Capacity: Up to 263 million liters (1.65 million barrels)
- Jetty Infrastructure: Equipped with modern loading arms for safer, faster, and more ergonomic fuel transfer.
- Truck Loading: Bottom-Loading gantries can fill a 30,000-liter truck in 20 minutes
- Sustainability
    - The facility is powered entirely by renewable energy – solar, geothermal, and hydro – via Shell Energy Philippines.

Conversion Process for Valero Benicia Refinery

The conversion process for the Valero Benicia refinery into a storage/import facility would likely involve the following. This conversion does not include any new renewable fuel refining.

1. Acquisition and Strategic Planning
2. Project Announcement and Conceptual Design
3. Permit Applications and CEQA Scoping*
4. Draft Environmental Impact Report (EIR) and Public Review*
5. Final EIR and Permit Issuance*
6. Decommissioning of Refinery Unity and Site Preparation
7. Construction and Infrastructure Conversion
    a. Tank Retrofitting

b. Marine Terminal Upgrades
c. Truck/Rail Loading System Upgrades
d. Operational Testing and Ramp Up
e. Full Import Terminal Operations

**SLC coordination and MOTEMS assessment would happen during the permitting phase.*

Potential Conversion Timeframe

The estimated timeframe for converting the Valero Benicia refinery into an import terminal is approximately 3–5 years. This includes time for acquisition, planning, permitting, construction, and commissioning.

Potential Conversion Cost

Rough order of magnitude cost is likely to be between $600-$800 million depending on the required terminal upgrades and retrofits. This estimate assumes a 50% scale factor relative to the cost of the Martinez Renewable Fuels project based on the reduced scope focused on storage, logistics, and import infrastructure (not renewable fuel production.)

References

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Circulation/Transportation Analysis

Study Intersections

The following intersections were analyzed to determine their existing operations and if changes will need to be made to accommodate the enhancements to the port:

- Park Road and Industrial Way
- I-680 SB Off Ramp and Industrial Way
- I-680 NB On Ramp and Industrial Way
- Park Road and Bayshore Road
- I-680 SB On Ramp and Bayshore Road
- I-680 NB Off Ramp and Bayshore Road
- Park Road and Oak Road
- Park Road and Adams Street
- Bayshore Road and Oak Road

Furthermore, three additional intersections were also considered using the available 2019 traffic counts:

- Military East/East 5th Street
- East 5th Street/I-780 Eastbound Ramps
- East 5th Street/I-780 Westbound Ramps

These intersections were previously evaluated as part of the City of Benicia's 2020 Transportation Impact Fee (TIF) Update. A comparison between the 2019 and newly collected 2025 traffic counts showed no significant growth in traffic volumes and in some cases, a decrease. Therefore, the 2019 counts were considered to still accurately represent current conditions, and the results from the 2020 TIF Updates remain valid for the purposes of this analysis. All the intersections analyzed are shown in Figure 20.



Figure 20: Study Intersections (source: City of Benicia's 2020 Transportation Impact Fee (TIF) Update; GHD)

Roadway Classification

The following roadways, shown in Table 13, were analyzed as part of this traffic assessment. Their functional classifications, as identified in the City of Benicia General Plan, help determine the expected role each street plays within the city's transportation network and inform the appropriateness of future traffic volumes and truck routing.

Table 13: Roadway Classification

Major Arterials	Posted Speed (mph)	Minor Arterials	Posted Speed (mph)
Industrial Way	40	Bayshore Road	25
Adams Street	25	Oak Road	25
Park Road (between Industrial Way and Bayshore Road)	35	Park Road (outside the Industrial Way to Bayshore Road segment)	35
Military East	25		

Major arterials are high-capacity corridors designed to facilitate the movement of significant volumes of traffic, including regional and intercity travel. These roadways prioritize mobility over local access and often serve as key truck routes or connections to freeway interchanges. Within the study area, these streets provide the primary link between the Port of Benicia and I-680/I-780 and are expected to accommodate most of the port-related truck activity.

Minor arterials function as secondary connectors between major arterials and local or collector streets. They support moderate traffic volumes and provide a balance between mobility and local access. While they are still intended to carry through-traffic, minor arterials are more constrained in width and are often subject to more frequent driveway access, pedestrian activity, and stop-controlled intersections. In the context of this analysis, these routes serve as truck corridors but may require operational enhancements to manage increasing freight demands.

Truck Routes

Based on the locations of the port access gates, there are two presumed routes, shown in Figure 21, that trucks will take to and from the freeway.

Route 1

- Bayshore Road and Private Road Gate → Adams Street → Military East → East 5th Street → I-780 Ramps

  This is the most direct route to I-780 and serves trucks heading east toward I-680, I-80, and Sacramento.

  Constraints:

  - Residential context with narrow pavement widths and on-street parking
  - Limited turn lane storage and tight radii at Military East and East 5th Street
  - Potential for neighborhood impacts due to freight traffic

Route 2

- Bayshore Road and Private Road Gate → Bayshore Road → I-680 NB Off- and SB On-Ramps → Park Road → Industrial Way → I-680 SB Off- and NB On-Ramps

  This route offers an alternative path for trucks traveling toward southern or western destinations via I-680. While longer than Route 1, it avoids residential streets and passes through industrial areas.

  Constraints:

  - Stop-controlled intersections along Bayshore Road and Park Road
  - At-grade rail crossing
  - Separate on- and off-ramp pairs requiring multiple turning movements

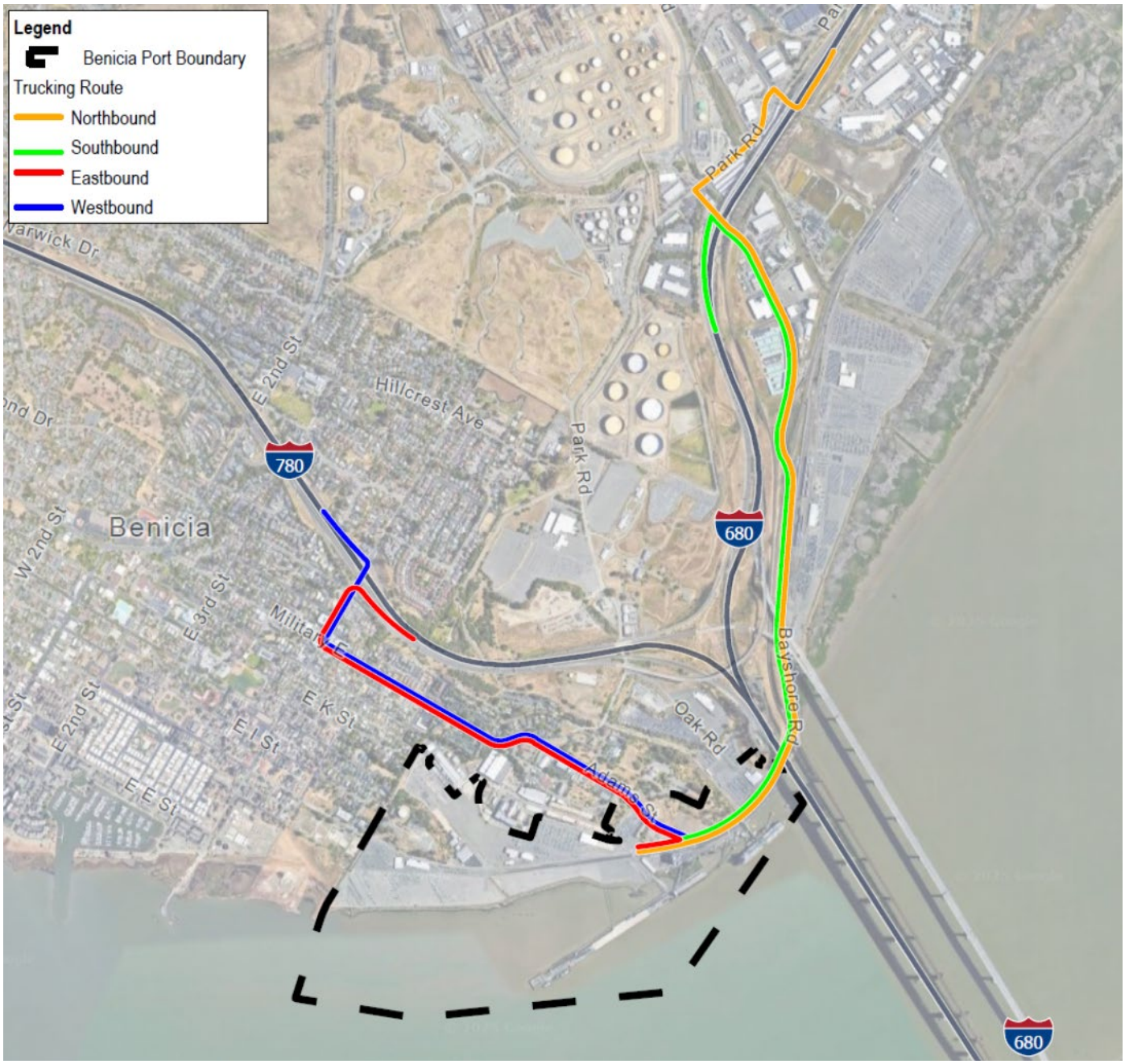


Figure 21: City of Benicia Truck Routes (source: City of Benicia; GHD)

Data

Traffic Volumes

To better understand the operations of the roadways surrounding the Port of Benicia, traffic volumes were analyzed at all nine study intersections. Turning movement counts were collected on Thursday, January 9, 2025, from 7:00am to 9:00am and from 4:00pm to 6:00pm to determine typical morning and evening peak hours. The AM peak hour was determined to be 7:00am to 8:00am. The PM peak hour was determined to be 4:00pm to 5:00pm. These volumes are shown in Figure 22.

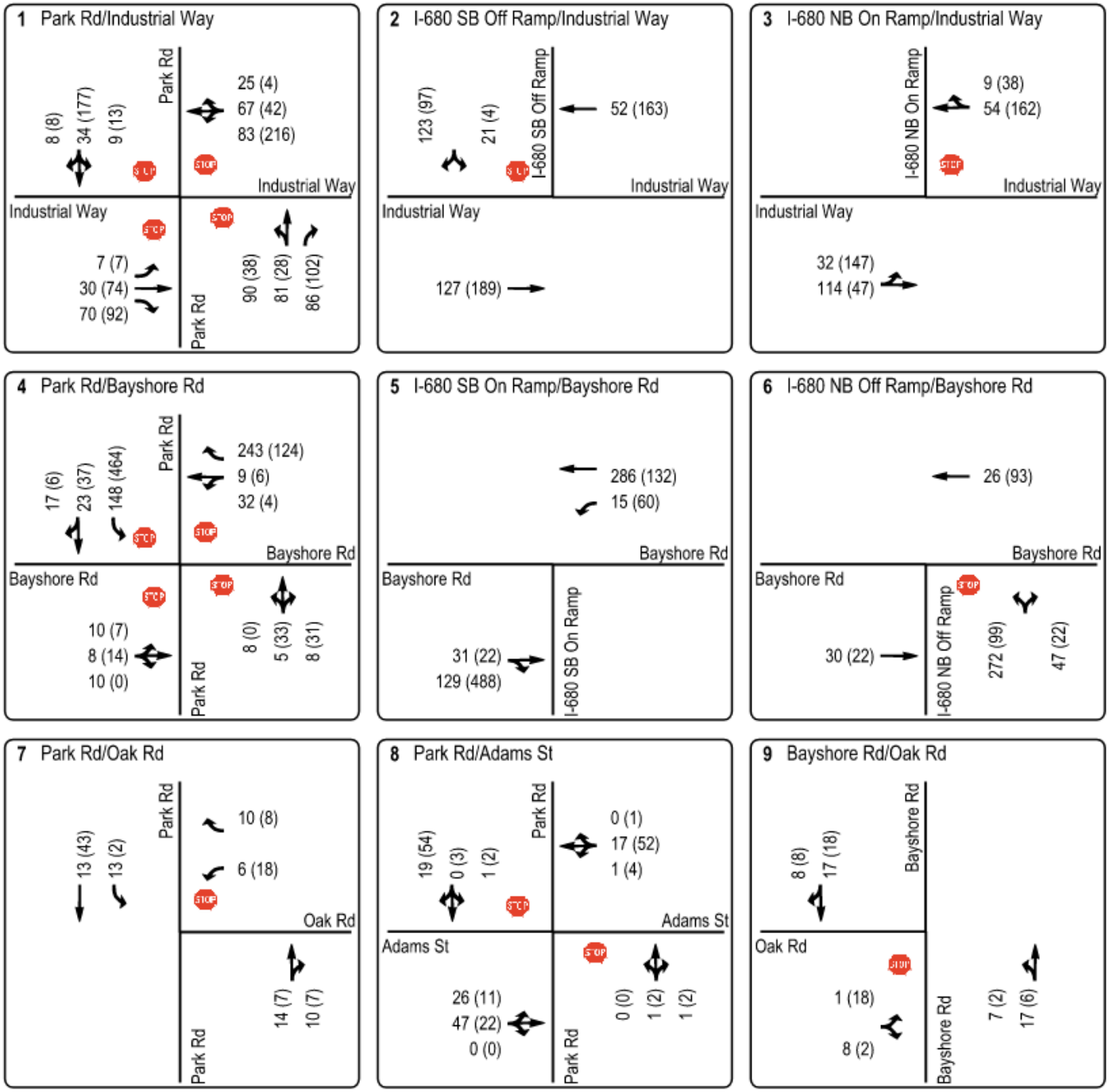


Figure 22: Turning Movement Counts (source: GHD)

In addition to the nine primary study intersections, traffic volumes from 2019, shown in Figure 23, were also reviewed at three additional intersections to provide further context on roadway operations in the surrounding area.

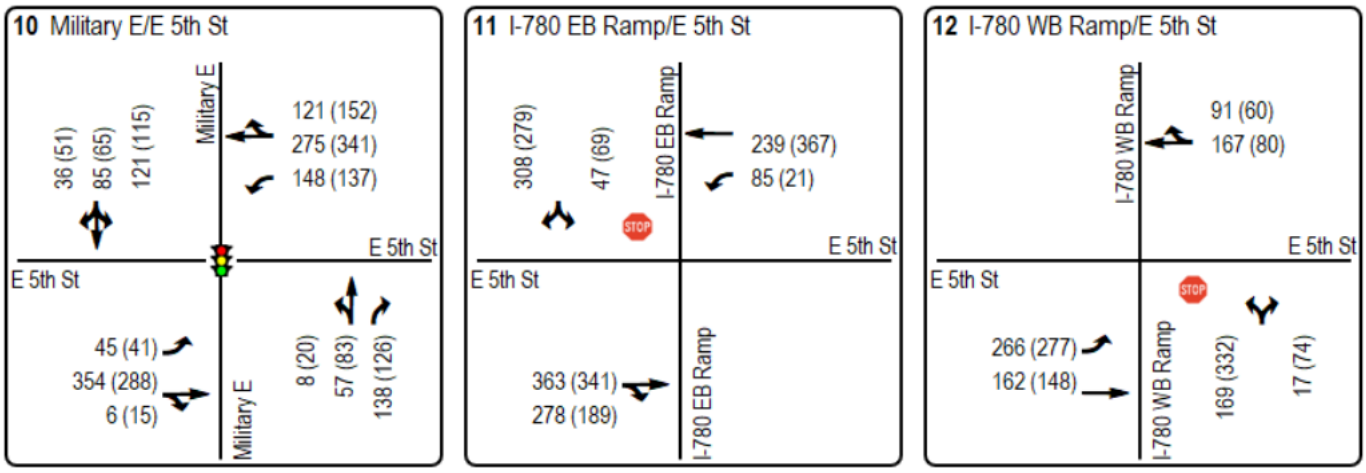


Figure 23: Additional Turning Movement Counts (source: GHD)

Truck Origin-Destination Data

Truck origin-destination data for the Port of Benicia were gathered using Compass IoT and are up to date as of March 6, 2025. Compass IoT is a platform that utilizes connected vehicles and their on-board diagnostic devices (OBDs) to gather real-time aggregate data for both passenger cars and heavy vehicles. These aggregated data include G-forces, braking, swerving, travel time, timestamps, median speed, vehicle make and model, roll, pitch, and yaw, and latitude and longitude. For the purpose of this analysis, travel time, vehicle make and model (to categorize only heavy vehicles), and latitude and longitude were the data categories utilized.

The relevant data were collected by determining points along I-680 and I-780 that vehicles traveling to and from the port would pass through *en route* to their final destinations. The boundaries of the port were identified to capture heavy vehicles starting at, ending at, or passing through the study area. These data were then processed to show the total number of heavy vehicles per month entering and exiting the port as well as a breakdown of the respective surrounding interstate which the trucks utilized. This provides a general idea of the origin and destination of the trucks utilizing the port. 5As shown in Figure 24 and Figure 25 below, approximately 75 percent of truck traffic uses I-680 to travel between the port and major metropolitan areas such as Sacramento to the north and Oakland to the south. A large share of this traffic crosses the George Miller Jr. Memorial Bridge to and from Martinez, indicating that most truck trips are oriented to the south of the port, either starting from or heading toward destinations in that direction.

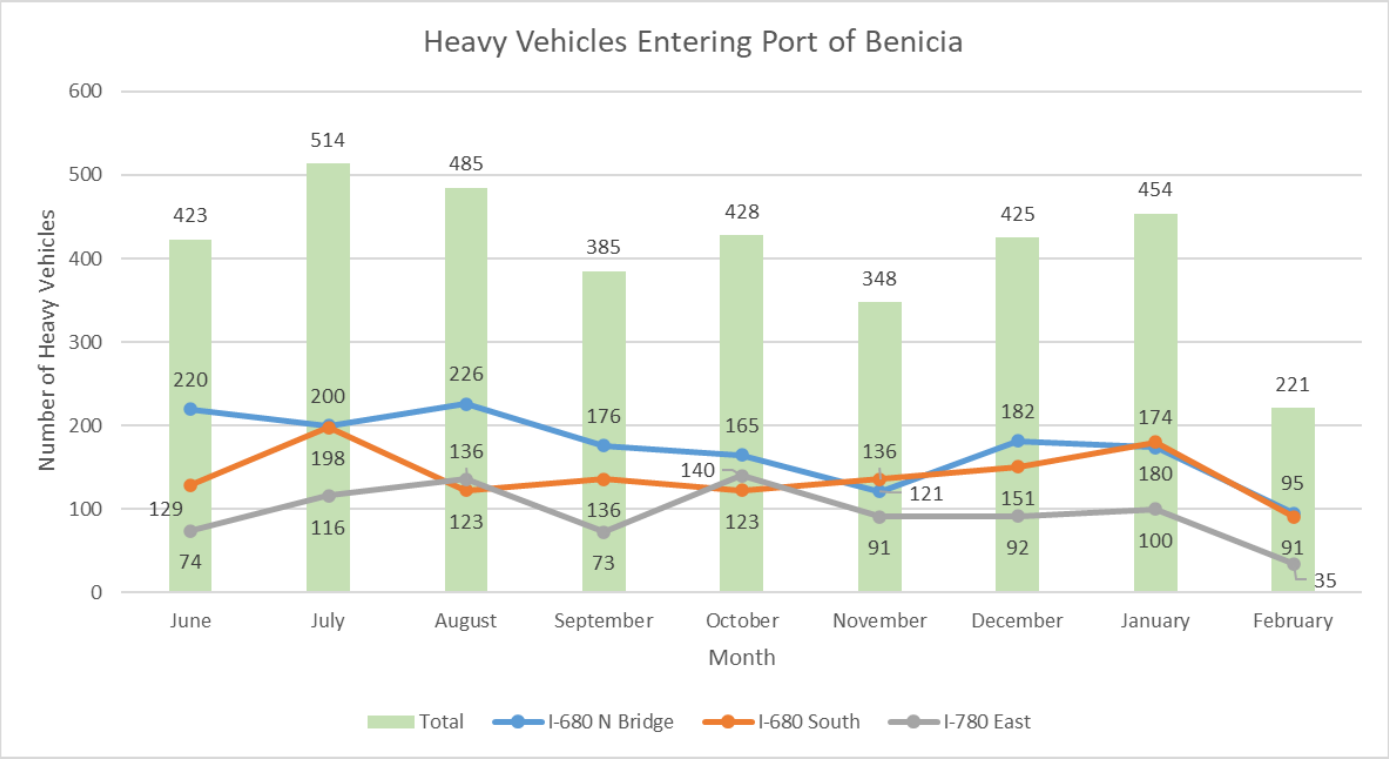


Figure 24: Origin of Heavy Vehicles Entering Port of Benicia by Month (2024) (source: GHD)

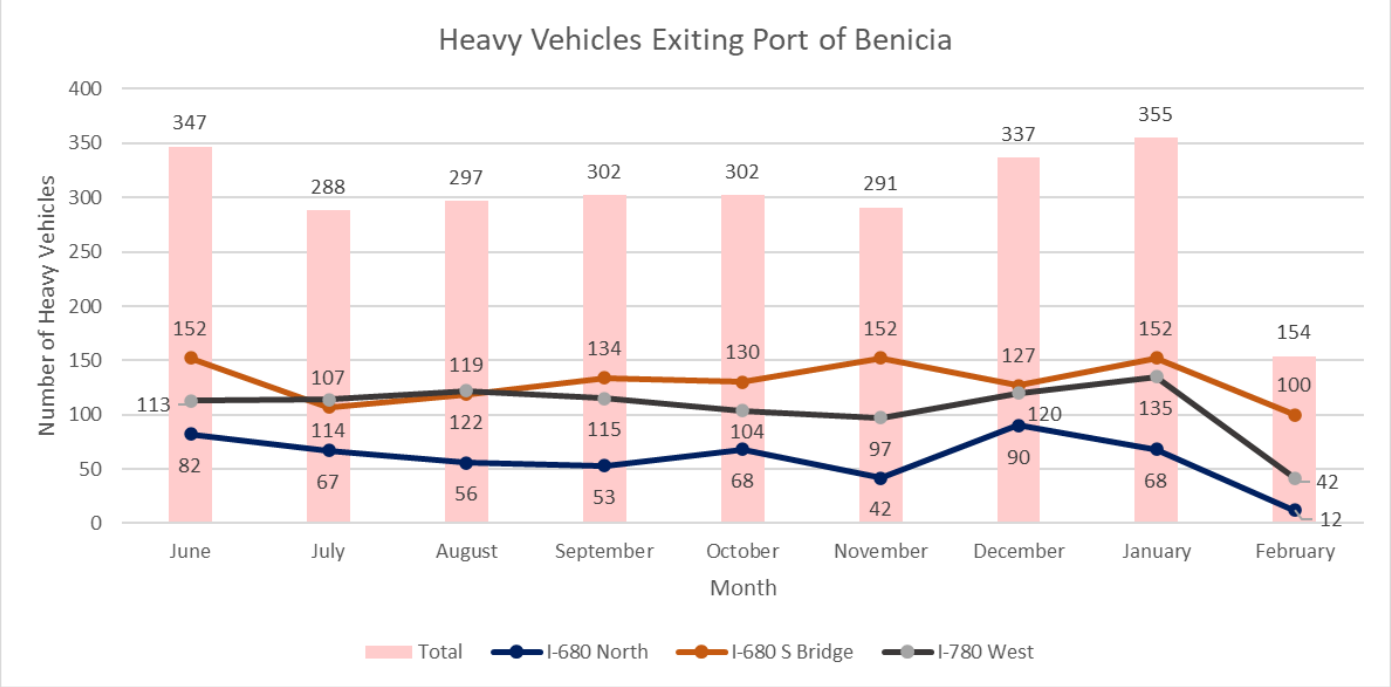


Figure 25: Destination of Heavy Vehicles Leaving Port of Benicia by Month (2024)

Employee Origin-Destination Data

Employee origin-destination data for the City and Port of Benicia were gathered using the longitudinal employer-household dynamics (LEHD) program through the U.S. Census Bureau's "OnTheMap" application, and is up to date as of March 6, 2025.

Table 14 presents the number of employees at the Port of Benicia in five-year increments from 2002 to 2022, along with their respective distances from home to job.

From 2002 to 2007, most employees lived within 24 miles of the port and traveled mostly from the northwest direction (cities of Benicia and Vallejo). In 2012, employees lived further away than in previous years, still traveling mostly from the northwest but with an increase from the southeast (cities such as Concord, Pittsburg, and Antioch). This trend continues through 2022 and can most likely be attributed to housing demand and affordability in other cities.

As shown in Figure 26 and Figure 27, from 2002 to 2022, the total number of jobs associated with Port of Benicia fluctuated but ultimately showed no clear long-term growth. The highest total was recorded in 2009, followed by a general decline into the early 2010s, reaching a low in 2021, before rebounding in 2022.

Over this 20-year period, jobs located within 10 miles of home decreased, indicating a decline in locally accessible employment. Meanwhile, jobs 10 to 24 miles away remained relatively stable, though they also experienced a drop after 2008, and jobs more than 50 miles away increased from 2002 to 2022, suggesting a shift toward longer-distance commutes. This trend may reflect regional economic changes, housing pressures pushing residents farther from major job centers, and a shift in employment sectors. Overall, the data points to fewer people working close to home and more commuting longer distances.

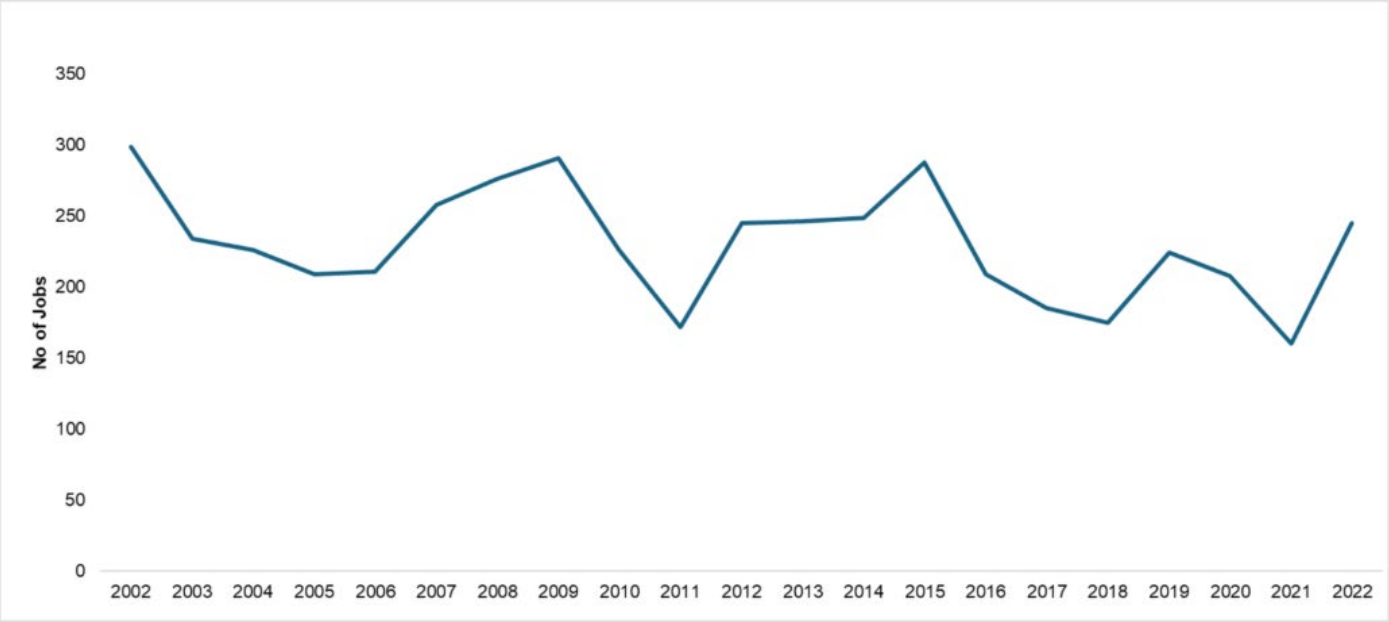


Figure 26: Number of Jobs Associated with Port of Benicia (source: US Census Bureau)

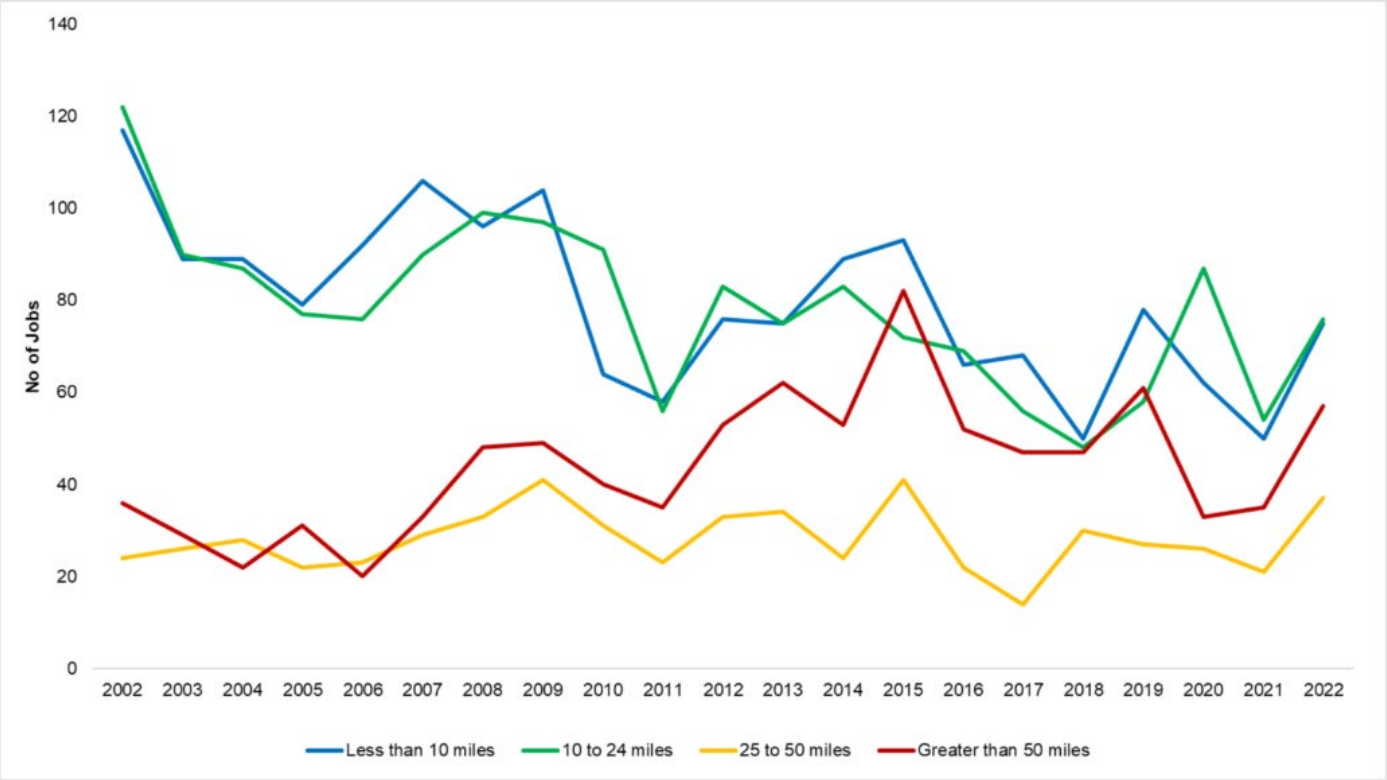


Figure 27: Number of Jobs Associated with Port of Benecia by Distance (source: GHD)

Collision Data

Five years (2020-2024) of collision data were gathered utilizing UC Berkeley's Transportation Injury Mapping System (TIMS), a free, statewide GIS tool that visualizes and summarizes data from SWITRS. TIMS focuses solely on fatal and injury crashes, excluding property-damage-only (PDO) collisions.

The dataset contains 29 collisions as shown in Figure 28. Of these, 17 (58.6%) were minor-injury, 10 (34.5%) possible-injury, and 2 (6.9%) severe-injury crashes with no fatal collisions recorded.

Collision Type Distribution

- Broadside crashes lead with 10 incidents (34.5%), followed by hit-object: 8 (27.6%)
- Rear-end and head-on each account for 4 incidents (13.8%)
- Sideswipe, vehicle/pedestrian, and other types each make up 1 incident (3.4%)

Crashes concentrate along key corridors: East 5th Street, Military East, and Industrial Way. The most frequent hotspot is the East 5th Street and Military East intersection (~6 crashes), with secondary clusters at Industrial Way and Oregon Street (2) and Adams Street and Park Road (2).

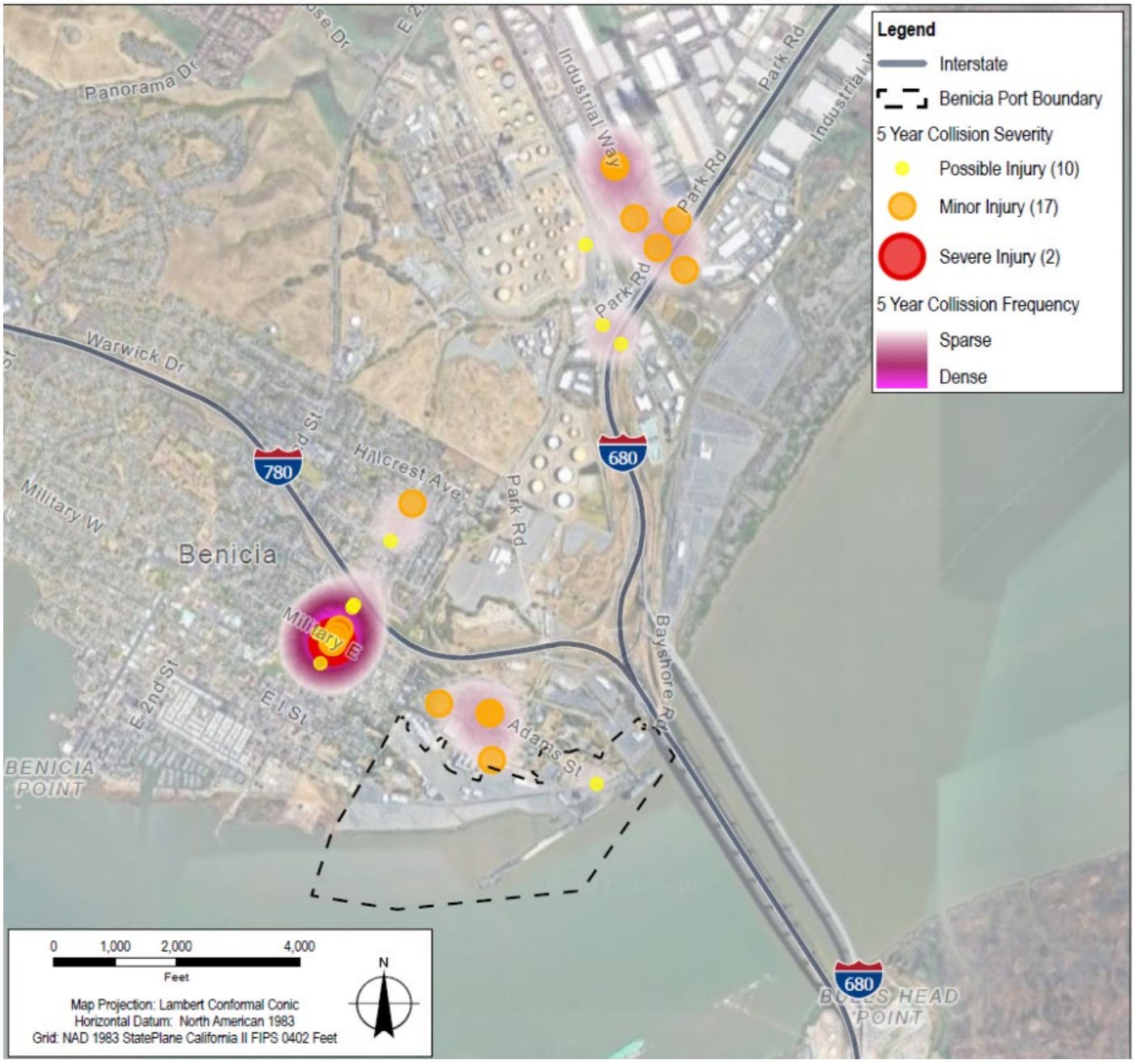


Figure 28: City of Benicia Collision Severity, 2020-2024 (source: TIMS; GHD)

Analysis Parameters and Methodologies

Level of Service (LOS) Methodology

Traffic operations were quantified through the determination of "level of service" (LOS). LOS is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an intersection, or roadway segment, representing progressively worsening traffic conditions. LOS "A" represents free-flow operating conditions and LOS "F" represents over-capacity conditions. LOS will be calculated for all intersection control types using the methods documented in the Transportation Research Board's publication "Highway Capacity Manual, Sixth Edition, A Guide for Multimodal Mobility Analysis, 2016 (HCM 6)".

The Synchro 11 (Trafficware) software program was used to implement the HCM 6 analysis methodologies. Synchro 11 has the capability to produce results based on HCM 2000, HCM 2010, HCM 6, or Synchro methodologies, and takes into account intersection signal timing and queuing constraints when calculating delay, the corresponding delay, and queue lengths. Intersection LOS was calculated for all control types using the methods documented in HCM 6. For signalized or all-way stop-controlled (AWSC) intersections, a LOS determination is based on the calculated averaged delay for all approaches and movements. The vehicular-based LOS criteria for different types of intersection controls are presented in Table 16.

Queue analysis was performed using SimTraffic. The 95th percentile queues were compared with the available storage for a movement to evaluate if the available storage is appropriate.

Table 14: Level of Service (LOS) Criteria for Intersections

Level of Service	Type of Flow	Delay	Maneuverability	Stopped Delay per Vehicle	
				Signalized/ Roundabout	Stop Control
A	Stable Flow	Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all.	Turning movements are easily made, and nearly all drivers find freedom of operation.	≤10.0	≤10.0
B	Stable Flow	Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	>10.0 and ≤20.0	>10.0 and ≤15.0
C	Stable Flow	Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.	Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted	>20.0 and ≤35.0	>15.0 and ≤25.0
D	Approaching Unstable Flow	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	Maneuverability is severely limited during short periods due to temporary back-ups.	>35.0 and ≤55.0	>25.0 and ≤35.0
E	Unstable Flow	Generally considered to be the limit of acceptable delay. Indicative of poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.	There are typically long queues of vehicles waiting upstream of the intersection.	>55.0 and ≤80.0	>35.0 and ≤50.0
F	Forced Flow	Generally considered to be unacceptable to most drivers. Often occurs with over saturation. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.	Jammed conditions. Back-ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions.	>80.0	>50.0

Source: Highway Capacity Manual Sixth Edition, A Guide for Multimodal Mobility Analysis, 2016 (HCM 6)

Applicable Policies

City of Benicia

According to the City of Benicia General Plan, Policy 2.20.1, the City should “maintain at least level of service D on all city roads, street segments, and intersections.” Therefore, this study will consider LOS D as the standard threshold for acceptable operations for any intersection under City jurisdiction.

Caltrans

Caltrans' Guide for the Preparation of Traffic Impact Studies contains the following policy pertaining to the LOS standards within Caltrans’ jurisdiction:

- *Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on state highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS.*

Consistent with Caltrans practice, this study will consider LOS “D” as the standard threshold for acceptable operations for any intersection under Caltrans jurisdiction.

Existing Traffic Operations

Intersection Operations

Table 15 presents the LOS and queuing analysis for all nine primary study intersections highlighted in Figures 21 and 23. As shown below, the intersection of Park Road and Bayshore Road operates at LOS E with 41.6 seconds of delay in the PM peak hour which exceeds the target LOS D. Additionally, the westbound movement for the intersection of Park Road and Industrial Way exceeds the available storage length (i.e. the distance of roadway provided for vehicles waiting in a turn lane) during both peak hours while the northbound left/thru movement exceeds the available capacity in the AM peak hour only.

Given these issues, this location has been identified as a candidate for signalization under immediate improvement needs. Signalizing the intersection, as shown in Table 16, would help manage the conflicting turning movements, improving safety for all users. Signal timing should be coordinated with nearby intersections to ensure smooth progression and minimize congestion along Park Road.

Additionally, according to the City of Benicia’s 2020 Transportation Impact Fee (TIF) Update study, the intersection of East 5th Street and Military East is currently operating at an acceptable level of service (LOS A) during both the AM and PM peak periods. In contrast, the ramp intersections at East 5th Street and I-780 WB Ramps, as well as East 5th Street and I-780 EB Ramps/East O Street, are performing poorly, operating at LOS E or worse. To address these deficiencies, the TIF study recommends installing a traffic signal and providing a westbound left-turn pocket at the I-780 WB Ramps intersection. For the I-780 EB Ramps/East O Street intersection, the study suggests restricting access to O Street, installing a traffic signal, and adding a northbound right-turn pocket.

Table 15: Study Intersection Existing Operations

#	Intersection	Control Type	Target		Weekday AM Peak Hour				Weekday PM Peak Hour			
			Delay	LOS	Delay	LOS	95th Percentile Queue (ft)	Available Storage	Delay	LOS	95th Percentile Queue (ft)	Available Storage
1	Park Rd & Industrial Way	AWSC	35	D	11.1	B	-	-	19.6	C	-	-
	EB Left						34	50			26	50
	EB Thru						60	230			65	230
	EB Right						70	230			74	230
	WB Left/Thru/Right						**89**	75			**96**	75
	NB Left/Thru						**92**	80			52	80
	NB Right						65	975			57	975
	SB Left/Thru/Right						70	765			106	765
2	I-680 SB Off Ramp & Industrial Way	TWSC	35	D	9.9	A	-	-	10.5	B	-	-
	EB Thru						7	75			0	75
	WB Thru						14	165			57	165
	SB Left/Right						81	1025			68	1025
3	I-680 NB On Ramp & Industrial Way	TWSC	35	D	0.0	A	-	-	0.0	A	-	-
	EB Left/Thru						0	165			7	165
	WB Thru/Right						69	340			99	340
4	**Park Rd & Bayshore Rd**	**AWSC**	**35**	**D**	10.7	B	-	-	**41.6**	**E**	-	-
	EB Left/Thru/Right						61	250			50	250
	WB Left/Thru						53	150			31	150
	WB Right						91	200			66	200
	NB Left/Thru/Right						57	215			65	215
	SB Left						73	135			147	135
	SB Thru/Right						45	500			40	500
5	I-680 SB On Ramp & Bayshore Dr	TWSC	35	D	7.9	A	-	-	9.3	A	-	-
	EB Thru/Right						0	200			20	200
	WB Left						26	120			69	120
	WB Thru						0	240			0	240
6	I-680 NB Off Ramp & Bayshore Dr	TWSC	35	D	11.9	B	-	-	10.5	B	-	-
	EB Thru						0	240			0	240
	WB Thru						0	750			0	750
	NB Left/Right						104	1450			68	1450
7	Park Rd & Oak Rd	TWSC	35	D	8.7	A	-	-	8.8	A	-	-
	WB Left						22	40			37	40
	WB Right						32	2100			29	2100
	NB Thru/Right						0	1125			0	1125
	SB Left						8	50			0	50
	SB Thru						0	745			0	745
8	Park Rd & Adams St	TWSC	35	D	9.3	A	-	-	9.1	A	-	-
	EB Left/Thru/Right						6	485			10	485
	WB Left/Thru/Right						4	550			0	550
	NB Left/Thru/Right						17	230			25	230
	SB Left/Thru/Right						45	215			53	215
9	Bayshore Dr & Oak Rd	TWSC	35	D	8.8	A	-	-	8.9	A	-	-
	EB Left/Right						27	2100			40	2100
	NB Left/Thru						4	860			0	860
	SB Thru/Right						0	2200			0	2200

Notes:

1. TWSC = Two Way Stop Control, AWSC = All Way Stop Control
2. LOS = Delay based on worst movement for TWSC intersections, average of all approaches for AWSC
3. **Bold** = Unacceptable Conditions

Table 16: Study Intersection Existing Operations

#	Intersection	Control Type	Target		Weekday AM Peak Hour				Weekday PM Peak Hour			
			Delay	LOS	Delay	LOS	95th Percentile Queue (ft)	Available Storage	Delay	LOS	95th Percentile Queue (ft)	Available Storage
4	Park Rd & Bayshore Rd	Signal	55	D	6.8	A	-	-	8.9	A	-	-
	EB Left/Thru/Right						13	350			22	350
	WB Left/Thru						20	200			13	200
	WB Right						28	200			27	200
	NB Left/Thru/Right						10	250			12	250
	SB Left						54	200			160	200
	SB Thru/Right						14	500			11	500

Notes:

1. TWSC = Two Way Stop Control, AWSC = All Way Stop Control
2. LOS = Delay based on worst movement for TWSC intersections, average of all approaches for AWSC
3. **Bold** = Unacceptable Conditions

Port Expansion Forecast and Operational Impacts

Future projections for ro-ro vehicle imports at the Port of Benicia indicate an increase from approximately 223,931 vehicles in 2023 to 336,318 vehicles by 2050, a growth of roughly 50%. For the purposes of this analysis, it was assumed that all petroleum coke is exported via vessel and moved intermittently between the Valero refinery and the port via rail car, as is current practice. Therefore, only ro-ro cargo was considered when estimating future truck activity.

Surface traffic pertaining to any alternative future port uses, such as OSW manufacturing/fabrication or alternative site uses is too speculative at this point to realistically estimate potential associated traffic impacts.

To translate projected cargo growth into potential traffic impacts, this study assumed a modal split of 40% truck and 60% rail, with each truck carrying an average of 7 vehicles. These assumptions align with industry standards and current port logistics. Based on these values and the long-range forecasted growth in Ro/Ro volumes, additional truck traffic was distributed onto the identified truck routes and analyzed for impacts on intersection operations. Results indicate that, under moderate growth, the increase in truck activity does not significantly affect operations at intersections.

The City of Benicia's 2020 Transportation Impact Fee (TIF) Update includes projected traffic impacts and recommended improvements that account for growth in port-related activity, including freight operations at the Port of Benicia. The TIF study explicitly included the port area and assessed both existing and forecasted intersection conditions through 2040. Several intersections within this memo's study area, such as Industrial Way at Park Road, Industrial Way at I-680 Southbound Off-Ramp, Bayshore Road at Park Road, and Bayshore Road at the I-680 ramps, were evaluated in the TIF study and identified for improvements.

Key recommendations from the TIF update for intersections in the study area include signalization, modern roundabout installation, turn pocket additions, and improvements to accommodate heavy vehicle turning movements. Notably, the TIF study proposes the following recommendations to alleviate operational constraints caused by port truck traffic:

Industrial Way and Park Road I-680 SB Off Ramp

- Install modern roundabout (partial interchange reconfiguration)

Bayshore Road/Refinery Driveway and Park Road

- Install modern roundabout
- Control approaches for railroad crossing

Bayshore Road and I-680 SB On Ramp

- Provide eastbound right turn pocket
- Redirect westbound lefts to Park Road roundabout u-turn

Bayshore Road and I-680 NB Off Ramp

- Install traffic signal.

These planned improvements support the need for long-term investment in the freight corridor infrastructure surrounding the Port of Benicia.

Design Standards and Safety

The study area roadways, while classified as arterials under the City of Benicia's General Plan, are already showing signs of wear due to existing truck activity. The anticipated increase in port-related truck volumes will further exacerbate pavement deterioration, particularly on corridors such as Bayshore Road, Adams Street and Park Road, which exhibit surface distress including rutting and cracking. These conditions not only reduce ride quality but also compromise long-term durability and increase maintenance needs.

In addition to pavement concerns, safety and geometric issues are present along several routes. Narrow shoulders, limited sight distance at skewed intersections, and insufficient turn radii can create conflicts for large vehicles. These risks are compounded on Military East, where the combination of residential character, on-street parking, and constrained geometry make it unsuitable for heavy truck traffic. Long-term planning should consider alternative routing or targeted improvements to mitigate safety concerns and preserve residential livability.

Swept Path Analysis

A truck vehicle path analysis was conducted to evaluate the ability of large freight vehicles to navigate key intersections within the study area (see Figure 20). The analysis focused on intersections with tight turning radii or limited lane width that may pose challenges for truck maneuverability. For freeway ramp intersections, STAA (Surface Transportation Assistance Act) Design Vehicle 67-Foot radius trucks were used, consistent with Caltrans DIB 78-04 guidance for state highway facilities. For local roadway intersections and industrial areas, WB-40 truck templates were applied, particularly where turning conflicts, curb overruns, or insufficient clearance were observed. The analysis revealed that while most freeway ramp locations can accommodate STAA trucks with minimal encroachment, several local intersections, including Park Road at Bayshore Road, Park Road at Adams Street and East 5th Street at Military East demonstrated significant encroachment into opposing lanes or curb overruns when modeled with WB-40 trucks, indicating a need for geometric improvements to support ongoing port operations. Figures 29-39 below present the findings of this analysis for key intersections.

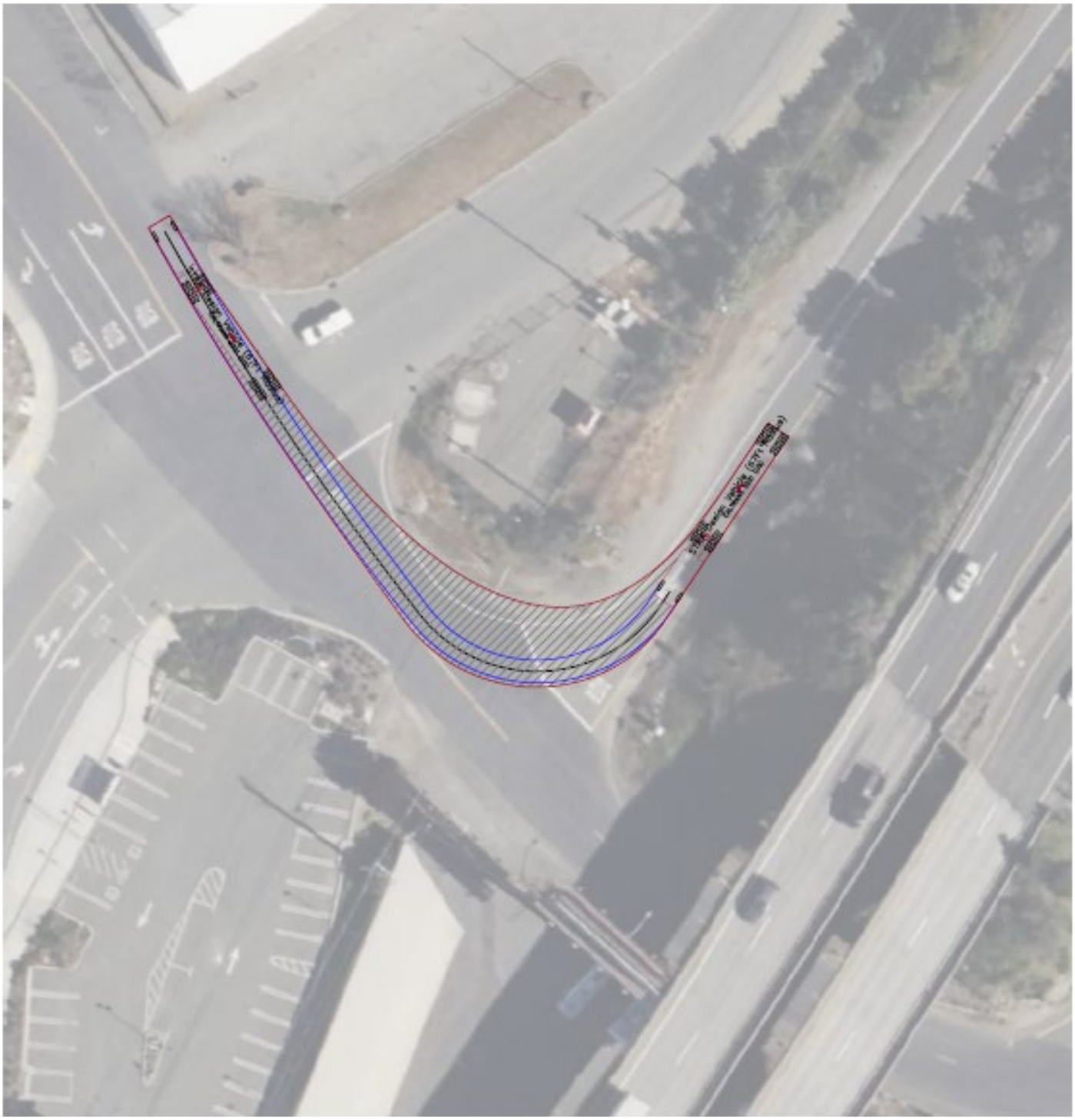


Figure 29: I-680 Industrial Way SB Off Ramp (source: Google Earth; GHD)

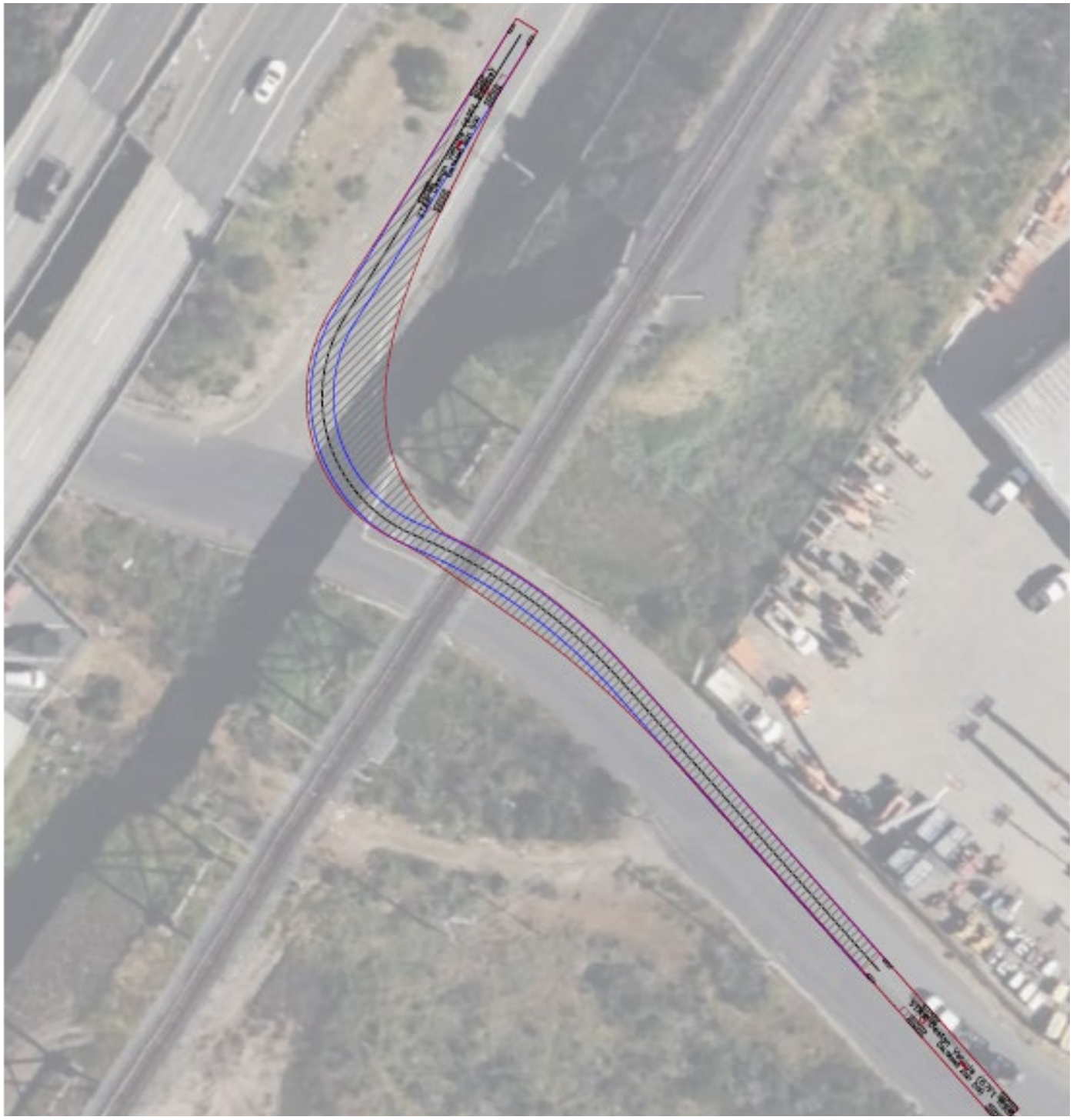


Figure 30: I-680 Industrial Way NB On Ramp (source: Google Earth; GHD)

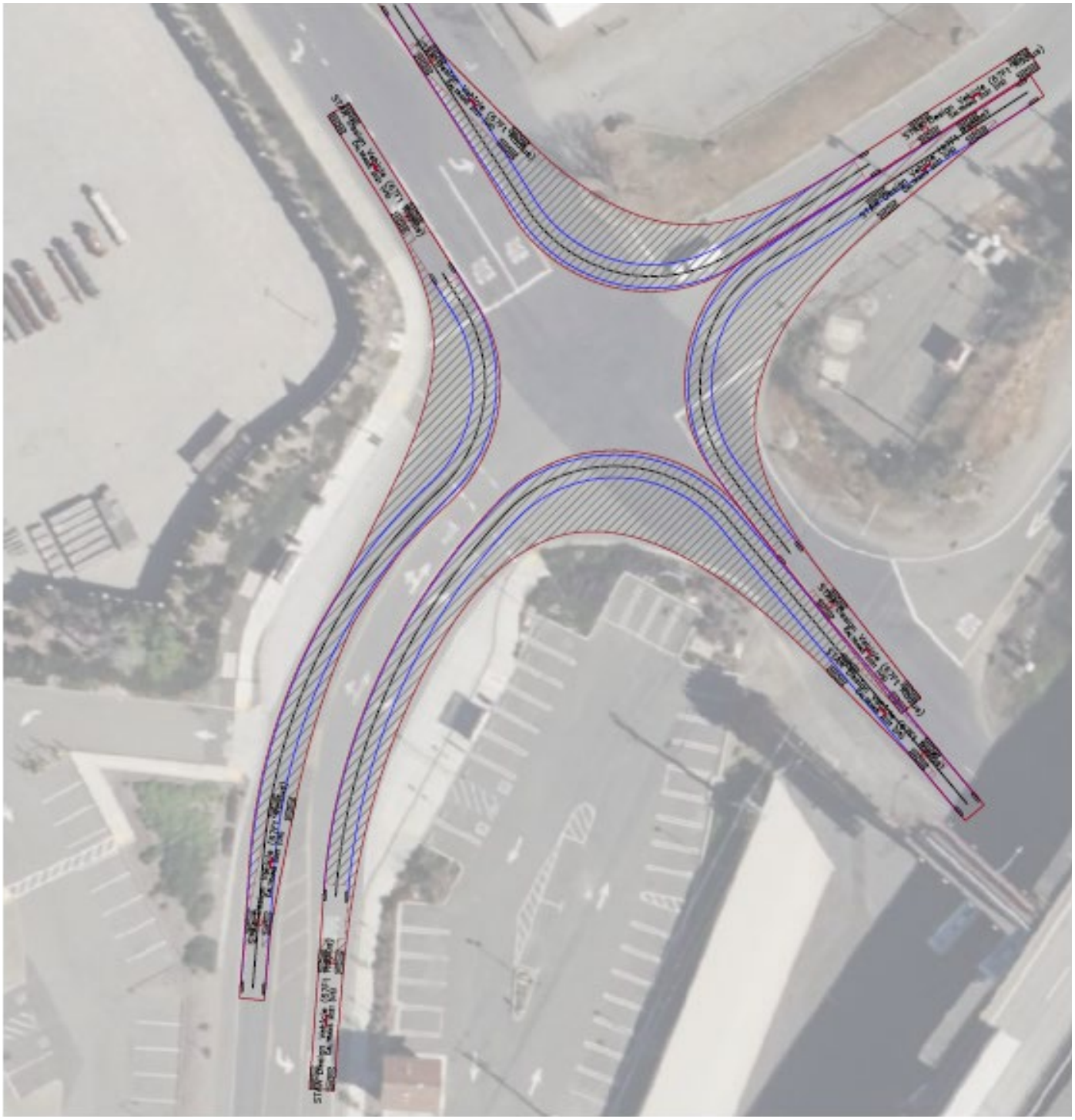


Figure 31: Industrial Way and Park Road – STAA (source: Google Earth; GHD)



Figure 32: I-680 Bayshore Road SB On Ramp (source: Google Earth; GHD)



Figure 33: I-680 Bayshore Road NB Off Ramp (source: Google Earth; GHD)

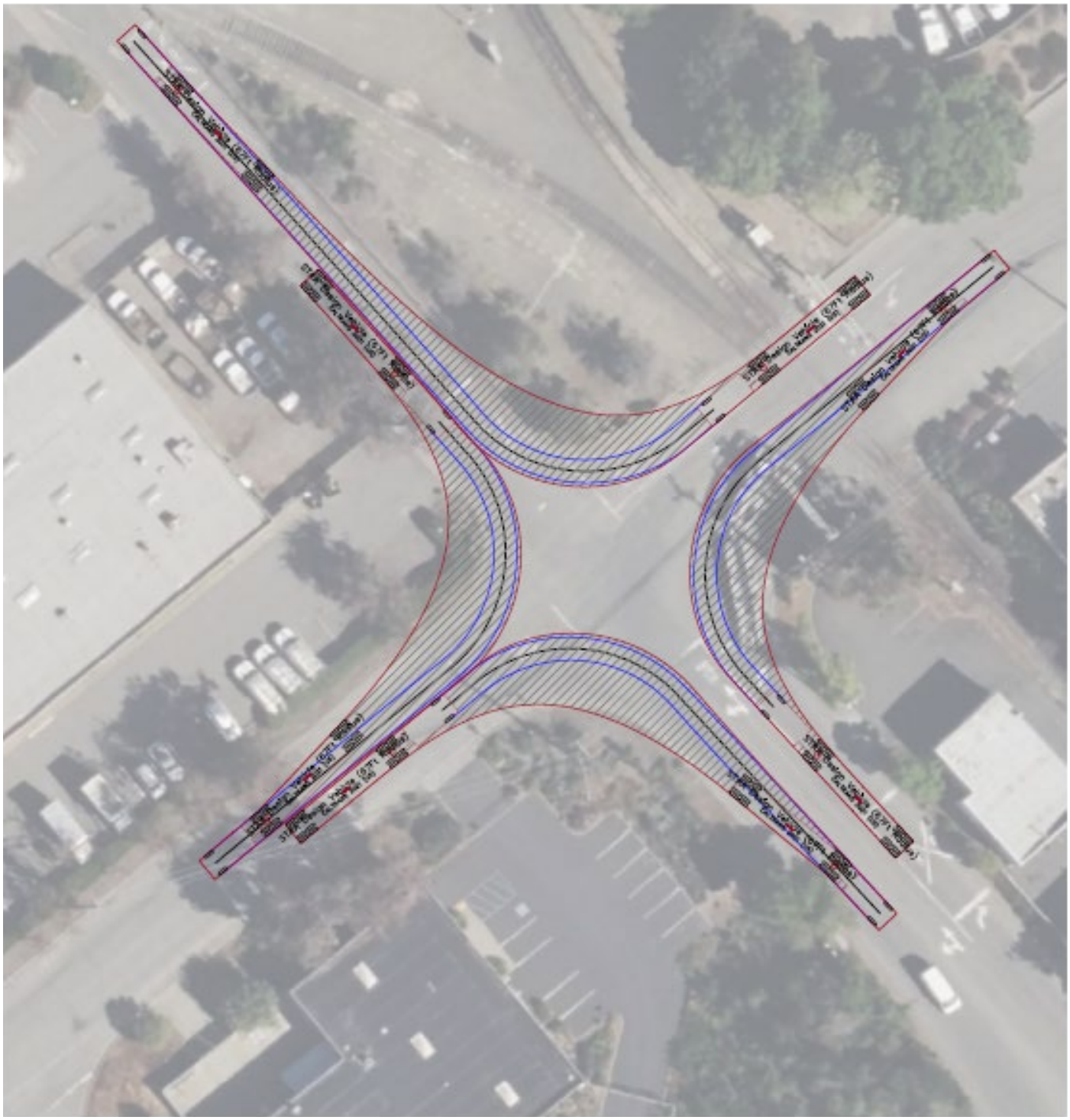


Figure 34: Bayshore Road and Park Road – STAA (source: Google Earth; GHD)



Figure 35: Bayshore Road and Park Road – WB-40 (source: Google Earth; GHD)

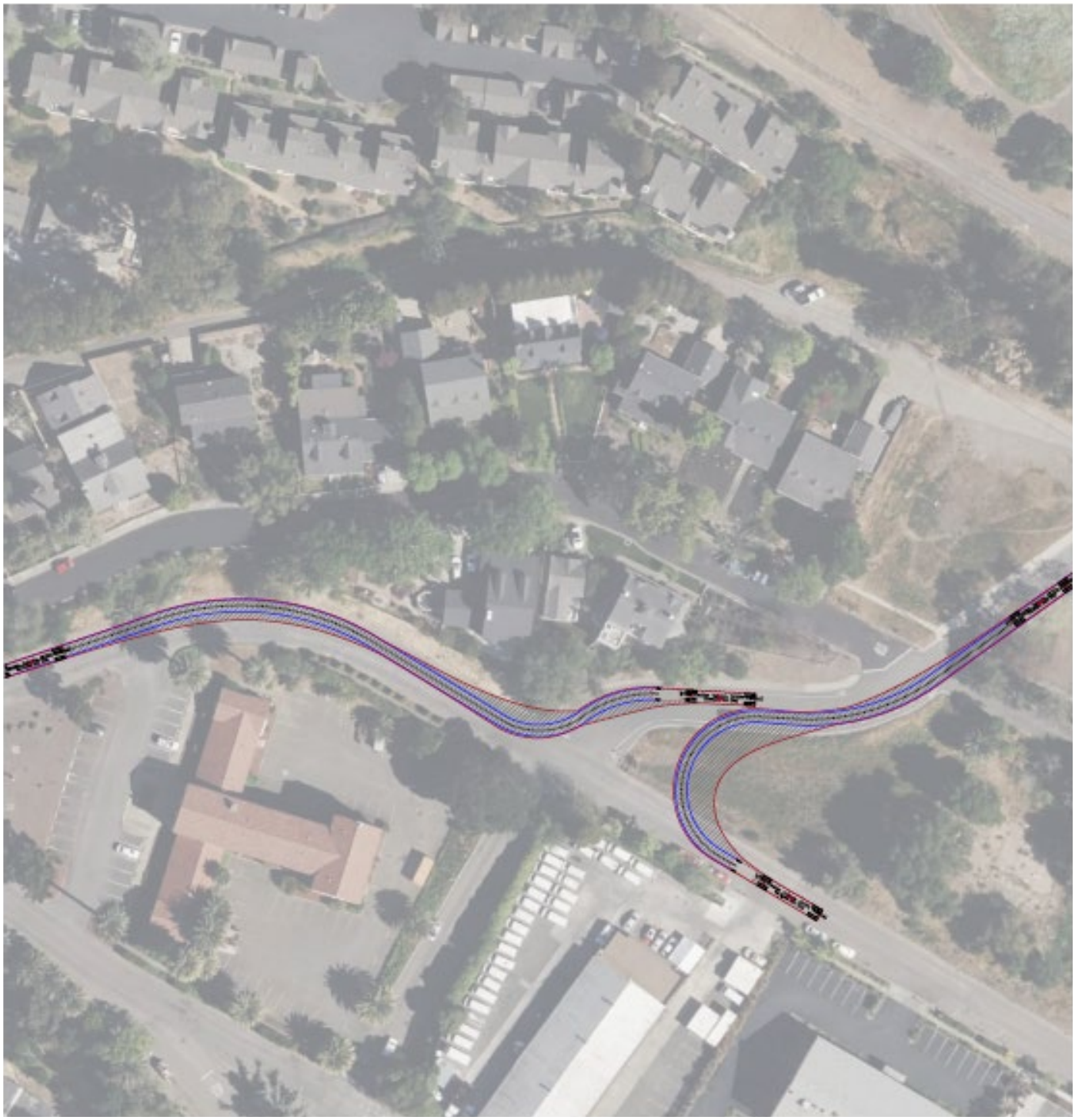


Figure 36: Park Road and Adams Street – STAA (source: Google Earth; GHD)



Figure 37: Park Road and Adams Street – WB-40 (source: Google Earth; GHD)

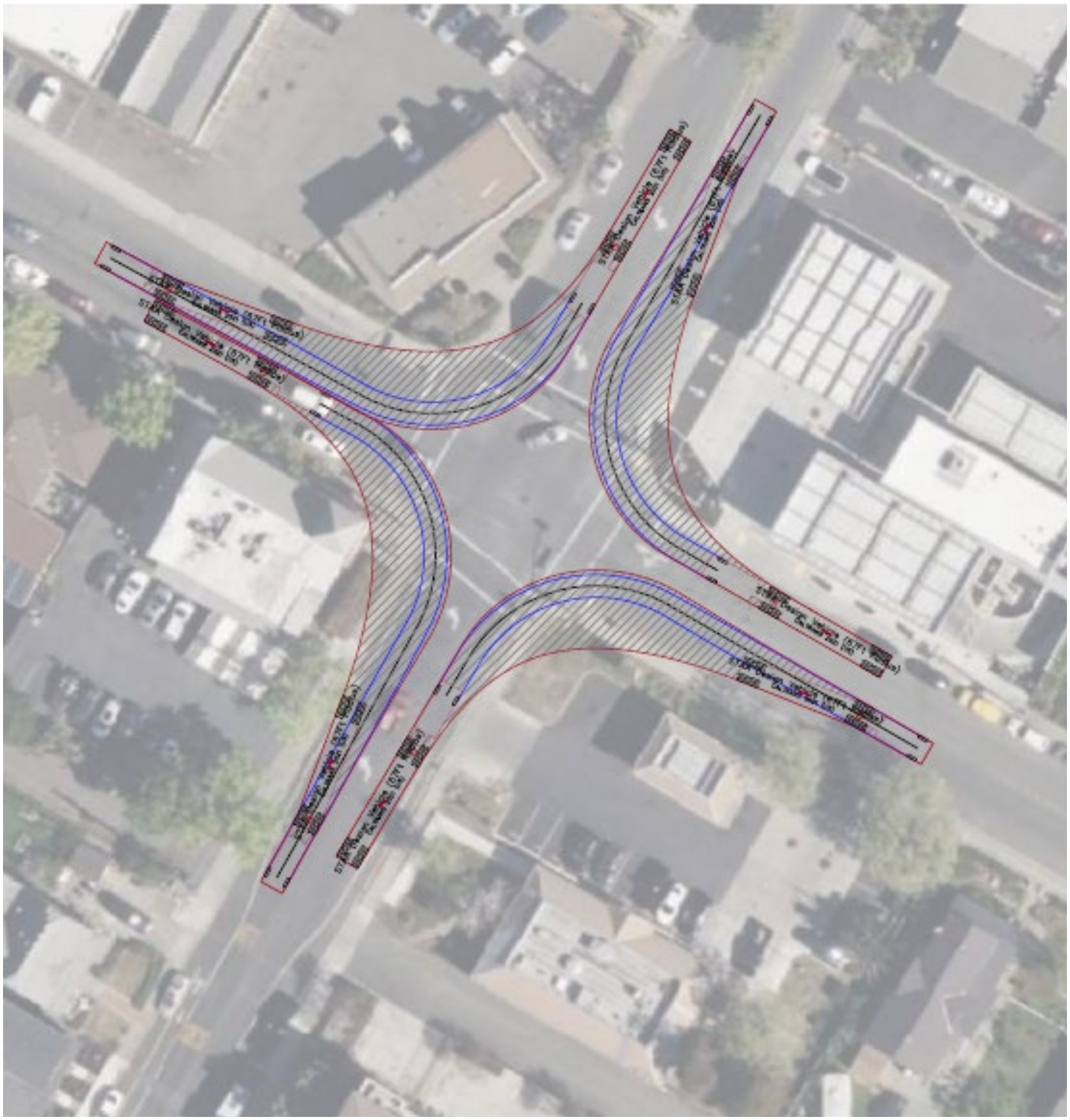


Figure 38: East 5th Street and Military East – STAA (source: GHD)

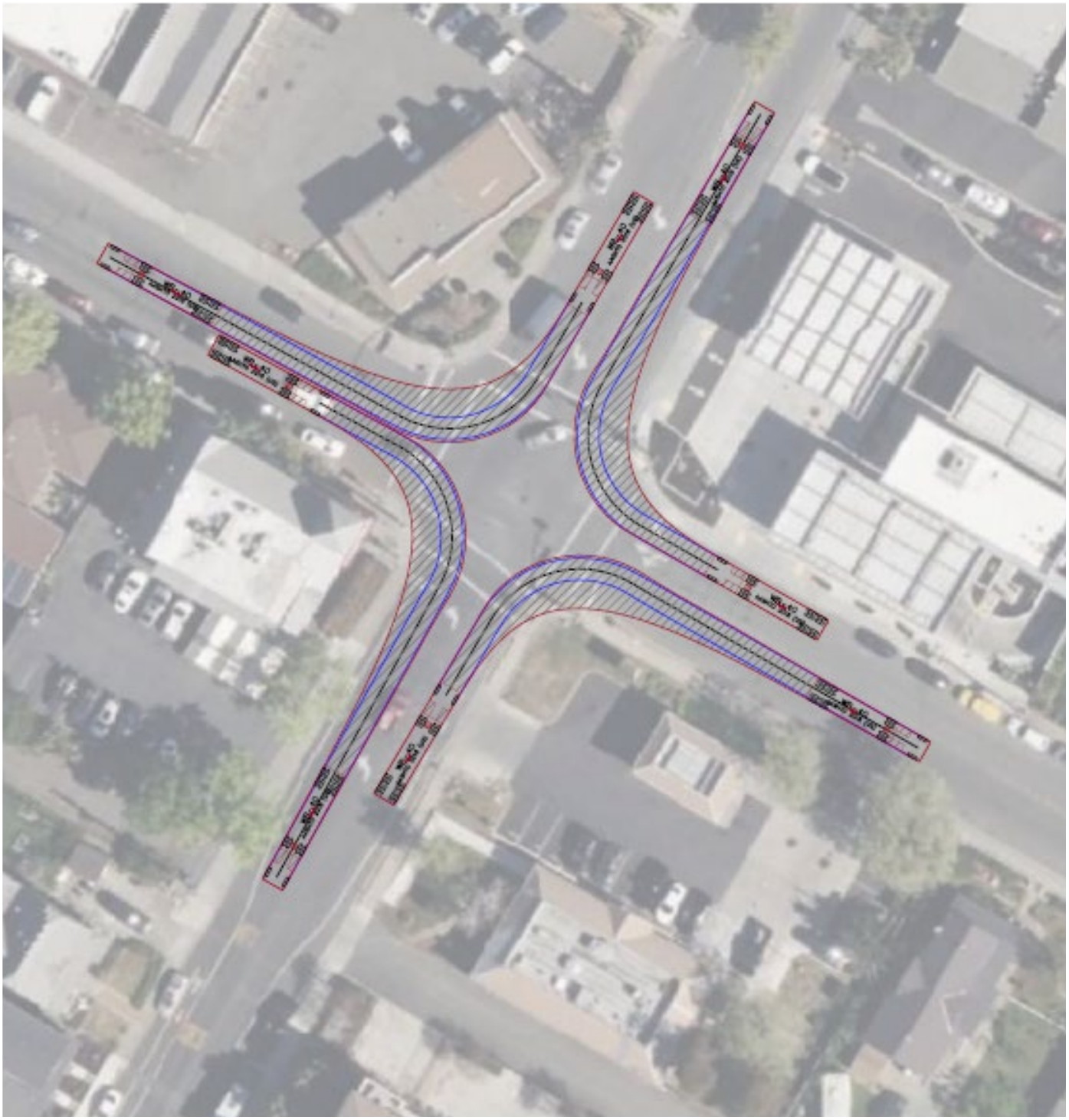


Figure 39: East 5th Street and Military East – WB-40 (source: GHD)

Conclusion and Summary of Findings

The preceding section of the Port of Benicia Facilities and Infrastructure Modernization plan evaluates the surrounding transportation network, focusing on current (2025) conditions, long-term port-related truck traffic growth, and the ability of key intersections and corridors to accommodate future demand. The analysis incorporates traffic turning movement counts, intersection operations analysis, truck origin–destination data, roadway design standard reviews, and reference to long-range planning efforts including the City's Transportation Impact Fee (TIF) Program, the City's General Plan Circulation Element, and the Benicia Industrial Park Transportation & Employment Center Plan (TEC Study). Key findings of this analysis are presented below.

Key Findings

1. Intersection Operations
    - Most study intersections currently operate within acceptable thresholds.
    - Park Road and Bayshore Road are already exhibiting operational constraints, making them candidates for immediate improvements.
    - Projections indicate modest increases in ro-ro–related truck volumes by 2050. These increases, when paired with implementation of TIF program improvements, are not expected to significantly degrade operations at most locations.
2. Truck Turning and Routing Constraints
    - Nearly all intersections studied lack adequate turning radii for STAA trucks moving between I-780/I-680 and the port.
    - The I-680 interchange, with split ramps to Bayshore Road and Industrial Way, is not designed for STAA circulation. Adjacent intersections (Park/Bayshore, Park/Industrial) already show signs of degraded traffic flow.
    - Current truck routes (East 5th Street, Military East, Park Road south of Oak Road) generate significant conflicts with downtown multimodal intersections and contribute to safety issues.
3. Multimodal Conflicts
    - Several designated bike routes (Park Road, Military East, Adams Street) directly overlap with truck corridors, creating recurring conflicts between bicyclists and heavy vehicles, especially at intersections like Park Road and Adams Street.
    - The intersection of Military East and 5th Street is both a multimodal focal point and a collision hot spot; continued truck traffic exacerbates safety risks here.
4. Pavement and Roadway Standards
    - Without targeted investment, additional truck traffic will accelerate surface deterioration.
    - Several roadways do not currently meet structural or geometric standards for heavy vehicle traffic.
    - Based on the 2017 TEC study, the plan recommends a Pavement Condition Index (PCI) target of 75 for all truck routes and a Truck Index (TI) standard consistent with STAA vehicle loading to preserve long-term system functionality.
5. Rail Grade Crossings
    - Grade crossings remain a vulnerability to system reliability. In particular, the Park Road crossing north of Bayshore creates areawide traffic lockups when blocked, posing both general circulation concerns and potential evacuation or emergency access concerns.

Infrastructure Needs (Gap) Assessment

Based on the analysis provided throughout this report, the GHD team has identified the following initial, and high-level, list of potential projects that are likely to be required to support future growth at the Port of Benicia. This list is not comprehensive and does not necessarily represent a final list of potential projects for consideration or advancement. Neither has any technical or financial feasibility analysis yet been completed for any of these projects; and, no costs have been estimated. GHD is still evaluating the expected impacts of sea level rise (SLR) on the port, and potential mitigation measures that might be required to protect the existing industrial waterfront. We expect a number of projects will be necessary to support the Port of Benicia's zero-emission future, consistent with California regulatory requirements, MTC/ABAG's vision for the future and general trends across the maritime industry.

Because these additional analyses may and likely will result in a separate list of potential projects for both the City and AMPORTS to consider, the GHD team is not currently able to provide a definitive projects list. Such a list will be provided as part of Task 4.

Waterside Projects

In order to meet the port's future ro-ro cargo capacity requirements while also facilitating throughput of additional cargo types (i.e. high and heavy, project and potentially other breakbulk cargo), the existing pier structure requires major structural improvements. As indicated in the existing infrastructure assessment completed as part of Task 1, portions of the pier have been rebuilt after fire damage but the shoreside access trestle and pier immediately adjacent to the access ramp have not been replaced and are at the end of their useful life. The southwestern end of the pier is similarly degraded and not suitable for cargo loading/offloading operations. As a result, this pier can only accommodate two vessels simultaneously despite having three designated berths. If petroleum coke operations are discontinued in association with Valero's current intent to idle, restructure, or cease refining operations at their Benicia Refinery by the end of April, 2026, then a third berth may not be necessary to accommodate anticipated growth in cargo volumes since the existing coke berth and adjacent backlands could be converted to accommodate additional ro-ro operations. However, structural improvements that amount to a near-complete reconstruction of the obsolete timber pile sections of the existing pier would still be considered high-priority improvements.

Apart from the existing pier structure, the existing Valero liquid bulk dock, which sits just to the northeast of the Port of Benicia's existing pier structure, would need to be improved in order to accommodate a transition from crude operations to refined product operations. Analysis of the Valero dock is outside the scope of the Port of Benicia Facilities and Infrastructure Modernization plan and Valero's intent to idle, restructure, or cease refining operations at their Benicia Refinery by the end of April, 2026 was not known at the time the scope was developed. Because this facility may be offline in the near future, the City and other key stakeholders may choose to evaluate the potential to convert the Valero dock for adaptive re-use, especially given the value of having an existing deepwater liquid bulk berth.

Additional waterside projects may be identified to mitigate the impact of climate change in terms of both SLR and storm events.

Landside Projects

Road Network

The Park Road and Bayshore Road intersection is exhibiting operational constraints and is a candidate for immediate improvements. Several other roads within the study area may not meet structural or geometric design standards for heavy vehicle traffic, and targeted upgrades will be necessary to preserve system functionality and safety. Previously identified improvements from the transportation impact fee (TIF) program should remain a priority for implementation. A complete list of these projects can be found in Appendix C of the 2020 City of Benicia Nexus Study for Update of Development Impact Fees, which is appended to this Task 2 deliverable and also available online at:

https://www.ci.benicia.ca.us/vertical/Sites/%7BF991A639-AAED-4E1A-9735-86EA195E2C8D%7D/uploads/Development_Impact_Fee_Nexus_Study_Update(1)(1).pdf

Additional details specific to landside improvement recommendations will be presented as part of the Task 4 deliverable for this plan. In addition to TIF program projects, it is expected that several resiliency projects will be necessary to mitigate the impact of climate change in terms of both SLR and storm events on the road network serving the port. Specific recommendations related to the road network surrounding and serving the Port of Benicia are as follow:

1. Roadway and Pavement Upgrades
    - Full resurfacing and structural strengthening of STAA truck routes: Park Road, Oak Road (private), Bayshore Road (partially private), and Industrial Way.
    - Evaluate asphalt versus concrete paving to extend lifecycle under heavy loading.
    - Enhance physical separation between Bayshore Road and the adjacent rail corridor to reduce conflicts.
2. Truck Routing Strategy
    - Advance study (plan line, preliminary engineering, environmental clearance) and eventual construction of a new connector between East 2nd Street and Park Road, providing direct port access via Oak Road.
    - Reroute trucks to East 2nd Street, which has an interchange with I-780 designed to modern standards and Oak Road.
    - Abandon truck use of East 5th Street, Military East, and Park Road south of Oak Road.
    - This rerouting removes heavy trucks from downtown and aligns with the City's Circulation Element.
3. Intersection and Interchange Modernization
    - Prepare a Project Study Report (PSR) and Intersection Operations and Safety Assessment Plan (ISOAP) for the six critical intersections at Park/Bayshore, Park/Industrial, and the I-680 interchange ramps.
    - Evaluate alternative intersection controls to accommodate STAA circulation.
    - Improvements will be consistent with the Circulation Element, TIF program, and TEC study.
4. Multimodal Redevelopment
    - Once trucks are diverted, reprogram Military East and Adams Street as employee access corridors for cars, pedestrians, and bicyclists.
    - Reinforce the downtown extension concept by improving pedestrian and bicycle connections into the City's historic military district.
    - Build upon the recent multimodal redesign at Military East/5th Street, further reducing collisions and improving safety.
5. Rail Grade Crossing Enhancements
    - Conduct a grade crossing study for all port-serving corridors.
    - Prioritize improvements at Park Road just north of Bayshore, where blocked crossings cause widespread network delays.
    - Integrate grade crossing enhancements into PSR-level studies.

Rail Network

The Port of Benicia is served exclusively by UP and UP owns and operates all rail assets within and adjacent to the port. It is not expected that any rail improvements will be required to support projected growth in cargo volumes. That said, it is expected that several resiliency projects will be necessary to mitigate the impact of climate change in terms of both SLR and storm events on the rail network serving the port.

Utilities

As indicated in the Task 1 report for this plan, mechanical utility information is largely not available for the Port of Benicia.. A detailed survey of the port in collaboration with AMPORTS will be necessary as part of any landside infrastructure modernization effort.

At minimum, new stormwater infrastructure will be required at the low-lying port facilities located immediately southwest and northeast of the George Miller Jr. Memorial and Benicia-Martinez Railroad bridges. This is due to the fact that these areas currently serve as the discharge points for all upland areas that shed water to the east side of Benicia. While there are four pump stations in service at these facilities (two southwest of the bridges, two northeast of the bridges) stormwater is currently discharged directly into the adjacent Carquinez Strait without filtration or any other treatment as a result of the age of the infrastructure and legacy regulatory frameworks.

In terms of electrical infrastructure, given the City's desire to implement shore power at the Port of Benicia, it is expected that a number of additional projects specific to shore power and other decarbonization efforts will be identified and put forward as part of the GHD team's Task 3 analysis.

PG&E records also indicate that there are underground natural gas lines at the perimeter of the terminal. These gas lines are part of the city-wide network which provide gas to the area. The existing gas line infrastructure serves to provide natural gas services to the existing buildings located on or at the terminal facilities. No required improvements to the port's gas assets have been identified.

Land Reclamation/Improvements

Apart from making improvements to existing assets, if deemed technically and economically feasible upon additional study, GHD recommends that both the sandstone "outcropping" site (aka Bottle Hill) and the "Pine Lake" site (aka Park Yards), shown in Figure 40 below as sites "**1**" and "**2**", respectively, be converted into usable land to support port operations and potentially accommodate future growth in cargo throughput.

For the outcropping site, the existing bluff would need to be cleared, demolished and leveled to an elevation that is roughly equivalent to that of other waterfront properties within the port. Utility connections and paving would also be required. The demolition of this site and addition of this usable area (~12 acres) would not only increase the static storage capacity of the Port of Benicia, but also potentially provide fill material for the Pine Lake site to further increase the near-port vehicle storage and processing area accessible to the port operator. Since it is already known that existing port properties have significant settlement challenges and that future SLR will likely inundate large parts of these waterfront properties, it may also be desirable to use the rock and dirt from the outcropping demolition as fill material to increase the elevation of existing areas of the waterfront. The feasibility of doing this remains to be explored, however.

For the Pine Lake site, while already at a significantly higher elevation than other port properties, especially those along the water's edge, the site itself requires leveling, utility connections and paving, at a minimum. Improvement of the Pine Lake site would similarly add usable area (~21 acres) and increase the static storage capacity of the Port of Benicia.

Both of the above land reclamation/improvement projects were previously identified by AMPORTS as high-potential enhancements to the Port of Benicia.

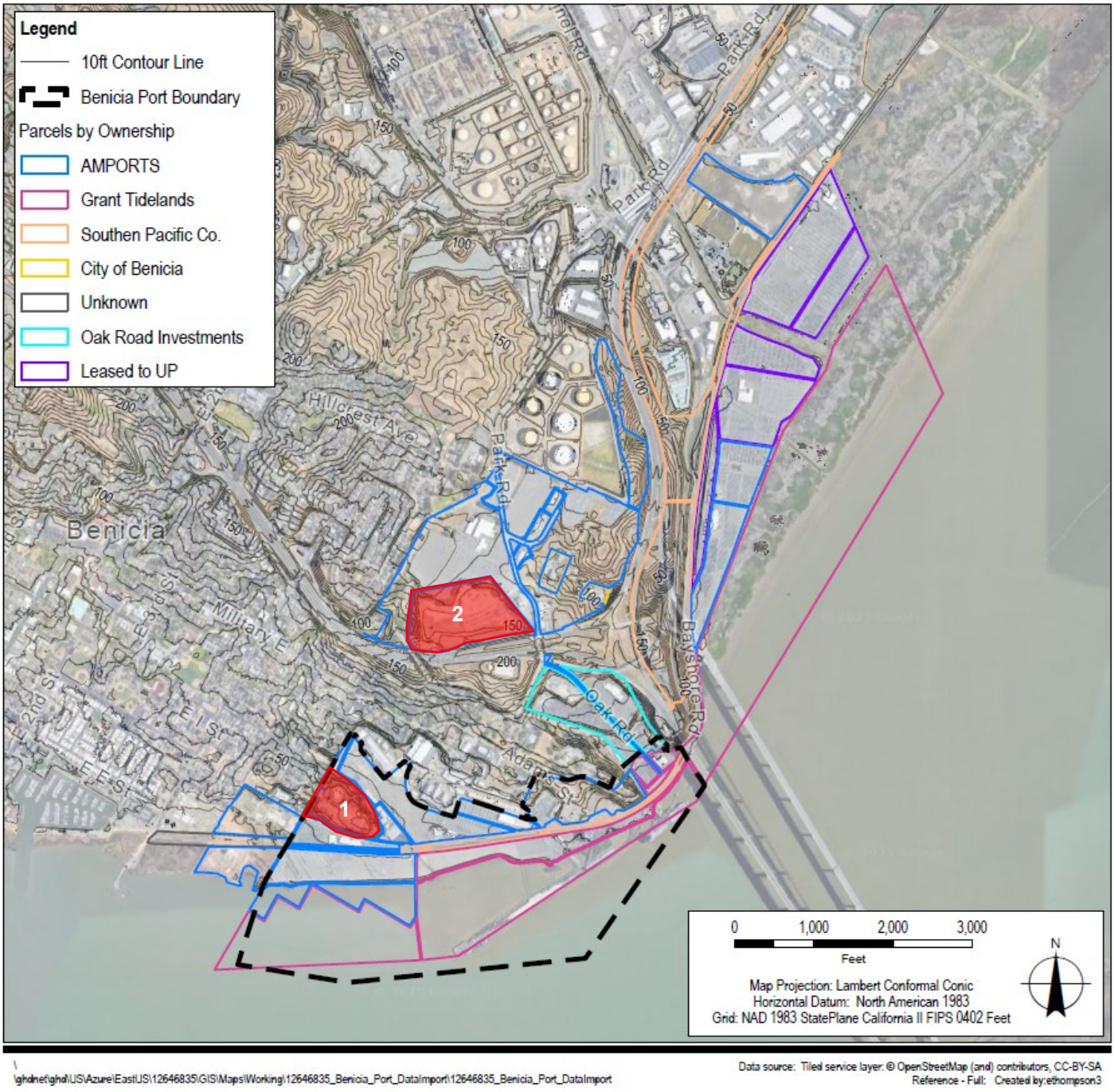


Figure 40: Potential Land Reclamation Areas within the Port of Benicia

Appendix A: 2025 OSW Executive Order

January 20, 2025

MEMORANDUM FOR THE SECRETARY OF THE TREASURY

THE ATTORNEY GENERAL

THE SECRETARY OF THE INTERIOR

THE SECRETARY OF AGRICULTURE

THE SECRETARY OF ENERGY

THE ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: Temporary Withdrawal of All Areas on the Outer Continental Shelf from Offshore Wind Leasing and Review of the Federal Government's Leasing and Permitting Practices for Wind Projects

Section 1. Temporary Withdrawal of Areas. Consistent with the principles of responsible public stewardship that are entrusted to this office, with due consideration for a variety of relevant factors, including the need to foster an energy economy capable of meeting the country's growing demand for reliable energy, the importance of marine life, impacts on ocean currents and wind patterns, effects on energy costs for Americans – especially those who can least afford it – and to ensure that the United States is able to maintain a robust fishing industry for future generations and provide low cost energy to its citizens, I hereby direct as follows:

Under the authority granted to me in section 12(a) of the Outer Continental Shelf Lands Act, 43 U.S.C. 1341(a), I hereby withdraw from disposition for wind energy leasing all areas within the Offshore Continental Shelf (OCS) as defined in section 2 of the Outer Continental Shelf Lands Act, 43 U.S.C. 1331. This withdrawal shall go into effect beginning on January 21, 2025, and shall remain in effect until this Presidential Memorandum is revoked.

To the extent that an area is already withdrawn from disposition for wind energy leasing, the area's withdrawal is extended for a time period beginning on January 21, 2025, until this Presidential Memorandum is revoked.

This withdrawal temporarily prevents consideration of any area in the OCS for any new or renewed wind energy leasing for the purposes of generation of electricity or any other such use derived from the use of wind. This withdrawal does not apply to leasing related to any other purposes such as, but not limited to, oil, gas, minerals, and environmental conservation.

Nothing in this withdrawal affects rights under existing leases in the withdrawn areas. With respect to such existing leases, the Secretary of the Interior, in consultation with the Attorney General as needed, shall conduct a comprehensive review of the ecological, economic, and environmental necessity of terminating or amending any existing wind energy leases, identifying any legal bases for such removal, and submit a report with recommendations to the President, through the Assistant to the President for Economic Policy.

Sec. 2. Temporary Cessation and Immediate Review of Federal Wind Leasing and Permitting Practices.

(a) In light of various alleged legal deficiencies underlying the Federal Government's leasing and permitting of onshore and offshore wind projects, the consequences of which may lead to grave harm – including negative impacts on navigational safety interests, transportation interests, national security interests, commercial interests, and marine mammals – and in light of potential inadequacies in various environmental reviews required by the National Environmental Policy Act to lease or permit wind projects, the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Energy, the Administrator of the Environmental Protection Agency, and the heads of all other relevant agencies, shall not issue new or renewed approvals, rights of way, permits, leases, or loans for onshore or offshore wind projects pending the completion of a comprehensive assessment and review of Federal wind leasing and permitting practices.

The Secretary of the Interior shall lead that assessment and review in consultation with the Secretary of the Treasury, the Secretary of Agriculture, the Secretary of Commerce, through the National Oceanic and Atmospheric Administration, the Secretary of Energy, and the Administrator of the Environmental Protection Agency. The assessment shall consider the environmental impact of onshore and offshore wind projects upon wildlife, including, but not limited to, birds and marine mammals. The assessment shall also consider the economic costs associated with the intermittent generation of electricity and the effect of subsidies on the viability of the wind industry.

(b) In light of criticism that the Record of Decision (ROD) issued by the Bureau of Land Management on December 5, 2024, with respect to the Lava Ridge Wind Project Final Environmental Impact Statement (EIS), as approved by the Department of the Interior, is allegedly contrary to the public interest and suffers from legal deficiencies, the Secretary of the Interior shall, as appropriate, place a temporary moratorium on all activities and rights of Magic Valley Energy, LLC, or any other party under the ROD, including, but not limited to, any rights-of-way or rights of development or operation of any projects contemplated in the ROD. The Secretary of the Interior shall review the ROD and, as appropriate, conduct a new, comprehensive analysis of the various interests implicated by the Lava Ridge Wind Project and the potential environmental impacts.

(c) The Secretary of the Interior, the Secretary of Energy, and the Administrator of the Environmental Protection Agency shall assess the environmental impact and cost to surrounding communities of defunct and idle windmills and deliver a report to the President, through the Assistant to the President for Economic Policy, with their findings and recommended authorities to require the removal of such windmills.

(d) The Attorney General may, as appropriate and consistent with applicable law, provide notice of this order to any court with jurisdiction over pending litigation related to any aspect of the Federal leasing or permitting of onshore or offshore wind projects or the Lava Ridge Wind Project, and may, in the Attorney General's discretion, request that the court stay the litigation or otherwise delay further litigation, or seek other appropriate relief consistent with this order, pending the completion of the actions described in subsection (a) or subsection (b) of this section, as applicable.

This memorandum shall be implemented consistent with applicable law and subject to the availability of appropriations.

This memorandum is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person. You are authorized and directed to publish this memorandum in the Federal Register.

Appendix B: Wind Energy Market Analysis

Introduction

This section of the Port of Benicia Facilities and Infrastructure Modernization plan focuses on identifying viable activities and providing the City of Benicia with an initial framework to navigate the renewable energy and alternative fuels markets contributing to California's renewable energy goals, thereby diversifying and establishing new revenue streams for the port. Specifically, the objective of the following analysis is to:

- Study California's offshore wind (OSW) deployment targets, which include size (gigawatts [GW]), scenarios and timing
- Identify supply chain requirements and the various port facilities needed to support statewide targets
- Identify the port's role in the renewable energy and alternative fuels markets
- Outline port infrastructure requirements and associated cost estimates associated with both OSW and land-based wind energy production.

The Bureau of Ocean Energy Management (BOEM) has commissioned multiple studies over the past few years to explore port infrastructure requirements for OSW in California. This section is primarily informed by the following studies:

- BOEM Study, Port of Coos Bay Port Infrastructure Assessment for Offshore Wind Development
- BOEM Study, California Floating Offshore Wind Regional Ports Assessment
- BOEM Study, California Floating Offshore Wind Regional Ports Feasibility Analysis
- BW Research Partnership, Floating Offshore Wind Manual
- CSLC Study, Alternative Port Assessment to Support Offshore Wind
- National Renewable Energy Laboratory (NREL), Offshore Wind Market Report: 2024

The U.S. Department of Energy (USDOE) estimates that $10 billion has either been announced or invested in the U.S. offshore wind supply chain since the beginning of 2021. This $10 billion includes $2.1 billion in 2023 alone for port development, vessel orders, workforce development, research, and other supply chain investments in the U.S. offshore wind energy market.[1] The National Renewable Energy Laboratory (NREL) estimates that an investment of at least $22 billion in ports, large installation vessels, and major manufacturing facilities will be needed to establish the U.S. offshore wind supply chain.[2]

As illustrated in Figure B1 and Figure B2, the offshore wind energy market continues to be driven by an increasing sum of state-level goals and procurement activities. While planning goals are aspirational and do not require agencies to take any direct action, procurement mandates are statutory requirements for states to achieve a predetermined quantity of offshore wind generation on a scheduled timeline. Thus, the industry in the U.S. is relatively small currently compared to what is being planned in the pipeline.

[1] DOE-BOEM-Fed-Offshore-wind-v3_w150.updated.pdf
[2] A Supply Chain Road Map for Offshore Wind Energy in the United States

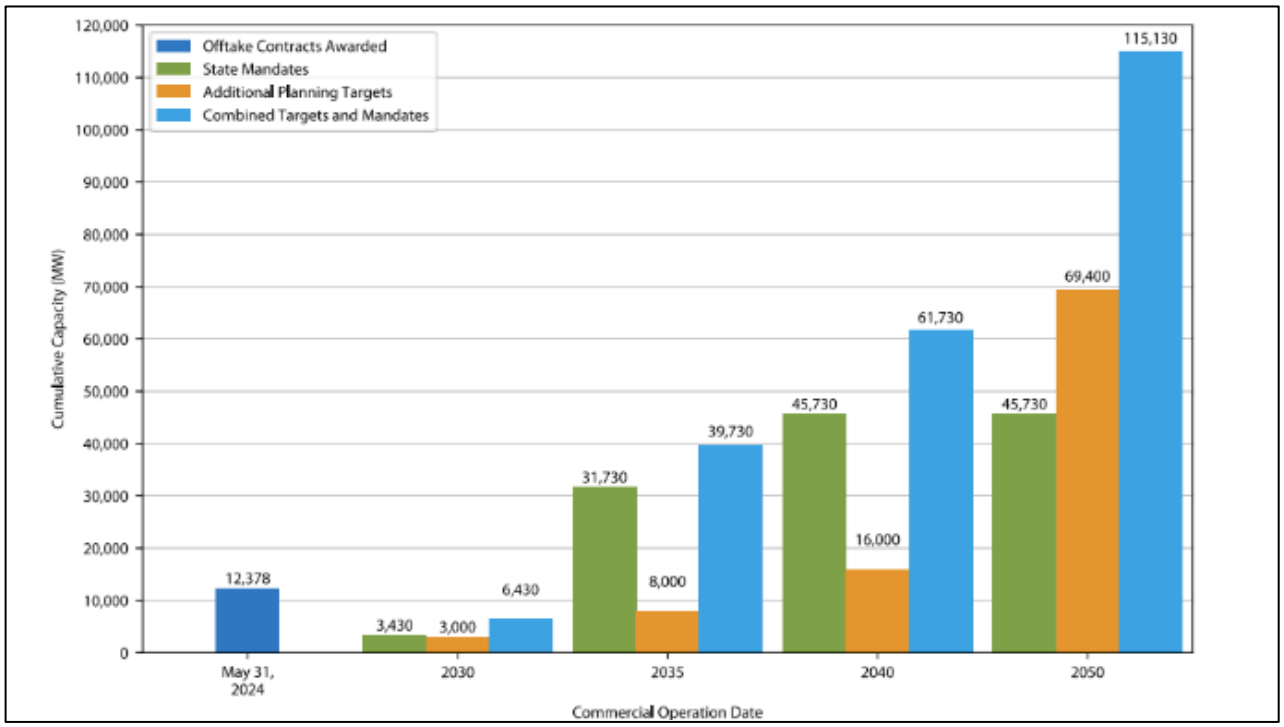


Figure B1: Cumulative Capacity of U.S. Offshore Wind Energy State Planning Goals, Procurement Mandates, and Offtake Agreements Awarded (source: Offshore Wind Market Report: 2024 Edition)

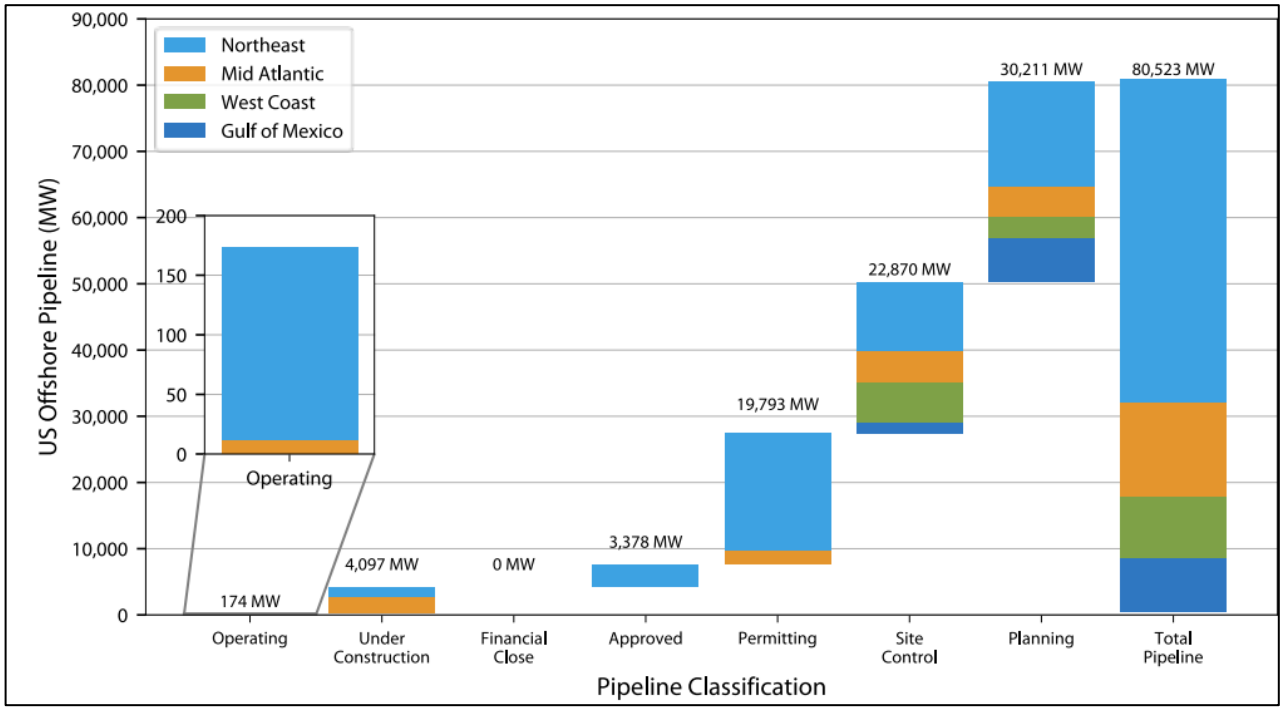


Figure B2: U.S. Project Pipeline Classification by Status (source: Offshore Wind Market Report: 2024 Edition)

California OSW Wind Targets

California's 100 Percent Clean Energy Act of 2018 (SB 100) requires that eligible renewable energy resources and zero-carbon resources supply 100 percent of total retail sales of electricity in California to end-use customers and 100 percent of electricity procured to serve all state agencies by 2045. As part of this larger goal, in August 2022 the California Energy Commission (CEC) established a planning goal of 2-5 GW of offshore wind energy by 2030 and 25 GW by 2045.[3] Currently California has no existing or approved offshore wind facilities.

To meet its offshore wind energy goals the California State Lands commission developed the AB 525 Port Readiness Plan to specifically evaluate the port and allied infrastructure required to service the offshore wind industry.[4] The goals of the Port Readiness Plan are detailed below:

- Identification of sea space, which entails designating potential Wind Energy Areas (WEA) along the California coast based on wind potential, existing port and transmission infrastructure while minimizing cultural and biological conflict areas
- Waterfront facilities improvements plan, including facilities that could support construction and staging, manufacturing of components, final assembly, and operations and maintenance
- Transmission planning in consultation with the California Public Utilities Commission (CPUC) and the Independent System Operator, to assess transmission investments and upgrades necessary, including potential subsea transmission options
- Permitting, which entails developing and producing a permitting roadmap that describes timeframes and milestones for a coordinated, comprehensive, and efficient permitting process for offshore wind energy facilities
- Potential impacts on coastal resources, fisheries, Native American and Indigenous peoples, and national defense, and outline strategies to address those impacts

Generation Timeline

Based on the CEC's goal of 2-5 GW by 2030 and 25 GW by 2045 the BOEM Environmental Studies Program Report assessed a range of deployment scenarios for California between 2030 through 2050 (Table B1).[5] These scenarios are based on low to high adoption of OSW generation. Other supporting infrastructure development, including port facilities, is estimated based on each of these scenarios. While 2030 estimates are fairly low, generation is expected to increase significantly by 2035 and beyond.

Table B1: California OSW Deployment Targets

Year	Low (0.5 GW/yr)	Low-Medium (1 GW/yr)	Medium (1.5 GW/yr)	Medium-High (2 GW/yr)	High (2.5 GW/yr)
2030	1 GW	2 GW	3 GW	4 GW	5 GW
2035	3.5 GW	7 GW	10.5 GW	14 GW	17.5 GW
2038	5 GW	10 GW	15 GW	20 GW	25 GW
2045	8.5 GW	17 GW	25.5 GW	34 GW	42.5 GW
2048	10 GW	20 GW	30 GW	40 GW	50 GW
2050	11 GW	23 GW	33 GW	44 GW	55 GW

Source: BOEM Environmental Studies Program Report Template 2021

[3] AB 525 Planning Goals Report and Adoption Resolution.
[4] AB 525 Port Readiness Plan.
[5] BOEM Environmental Studies Program Report Template 2021.

Based on the report's inventory of potential port sites, California has a sufficient number of existing ports that have the potential to be developed to meet the deployment targets. However, the offshore wind port sites require a significant amount of investment to upgrade and improve the existing infrastructure to serve the offshore wind industry, as detailed in the following sections.

Required Investments

According to NREL's West Coast Ports Strategy Study, it is estimated that a capital investment of $4 million is required for every 1 MW of installed floating offshore wind energy. Therefore, California's 2045 target of 25 GW (Table B1) of floating offshore wind requires a capital investment of approximately $100 billion.[6] This number only includes direct costs of component procurement and installation. This encompasses turbines, platforms, cables, mooring, anchors, onshore and offshore substations. However, it does not include indirect infrastructure costs, including port upgrades to accommodate the manufacture, integration, and service of wind turbines, transmission grid investments to accommodate the new energy source, cable landings, or vessel fleets required for offshore wind construction.

To put the required port investment into perspective, it is anticipated that capital investment into ports will represent approximately 10 percent to 15 percent of the direct costs. When full project costs are considered (direct capital costs, cable landing, transmission improvements, and vessel fleet construction), the port investment component is a relatively small portion of the overall capital investment.[7]

The West Coast currently has no offshore wind generation capacity. However, California and Oregon are both in planning or site controls stages for about 9 GW of installed capacity, of which 6 GW are in California and in the site control stage, as shown in Table B2 and Figure B3.

Table B2: U.S. Offshore Wind Energy Project Pipeline for the West Coast

No	State	Name	Developer	Lease Area	Offtake Agreement	Status	Capacity
56	OR	Proposed Lease Area	TBD	OCS-P 0566	TBD	Planning	991 MW
57	OR	Proposed Lease Area	TBD	OCS-P 0567	TBD	Planning	2,166 MW
58	CA	California North Floating	CIP	OCS-P 0562	TBD	Site Control	1,117 MW
59	CA	Canopy Offshore Wind	RWE	OCS-A 0561	TBD	Site Control	1,025 MW
60	CA	Golden State Wind	EDPR/ENGIE	OCS-P 0564	TBD	Site Control	1,302 MW
61	CA	Even Keel Wind	Invenergy	OCS-P 0565	TBD	Site Control	1,302 MW
62	CA	Atlas Winds	Equinor	OCS-P 0563	TBD	Site Control	1,296 MW
63	CA	CADEMO	Floventis, Cierco, SBM	State Lease	TBD	Permitting	60 MW

Source: Offshore Wind Market Report: 2024 Edition

[6] The Impacts of Developing a Port Network for Floating Offshore Wind Energy on the West Coast of the United States
[7] AB 525 Port Readiness Plan

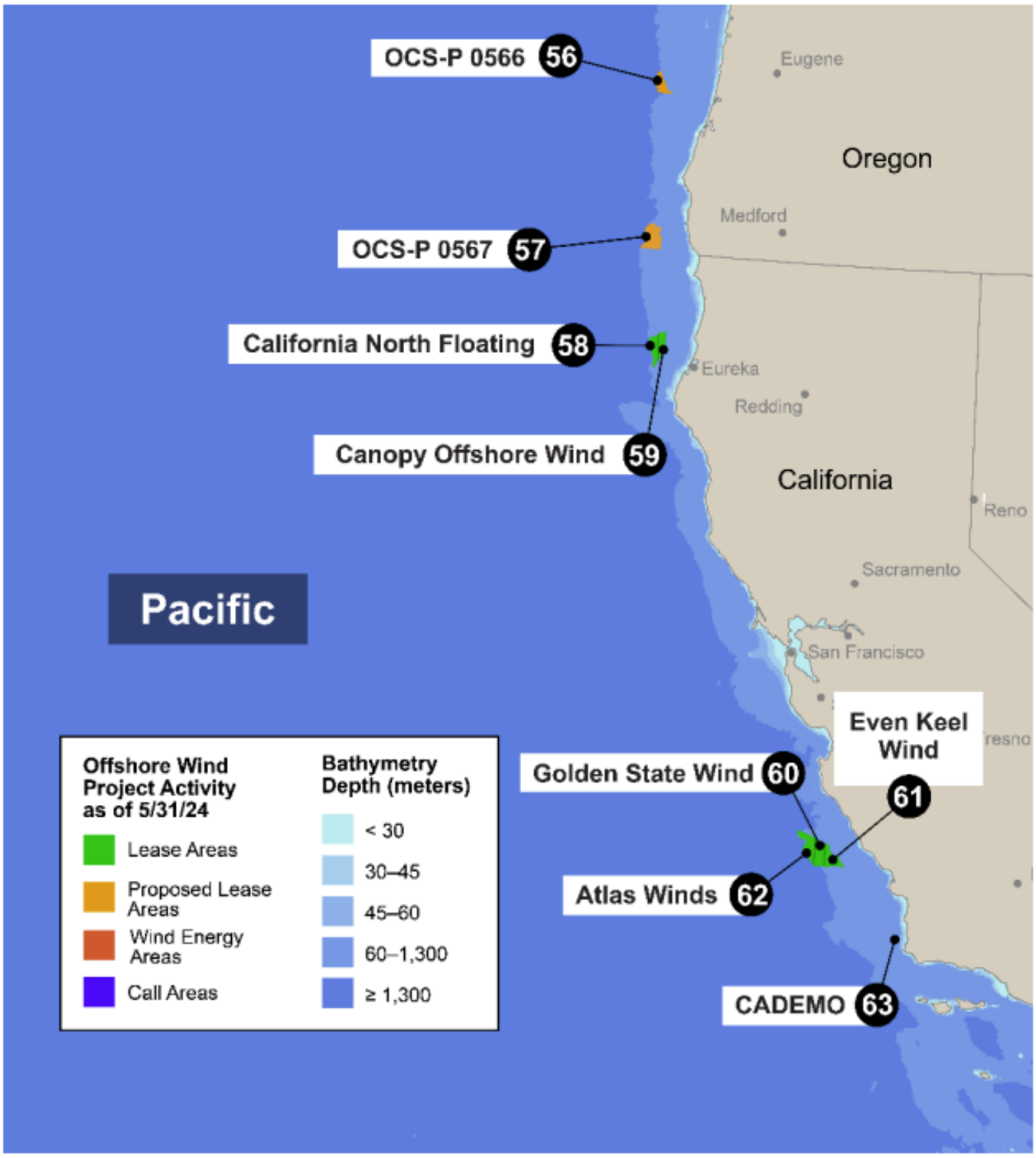


Figure B3: U.S. Offshore Wind Energy Pipeline – Pacific (source: Offshore Wind Market Report: 2024 Edition)

Existing and Planned Investments

BOEM is responsible for selecting areas of the ocean that are appropriate for wind energy development (WEAs) and for leasing these WEAs to project developers, as well as reviewing and approving plans for offshore wind farms in federal waters. WEAs are areas designated by BOEM as suitable for commercial wind energy activities while presenting the fewest apparent environmental and user conflicts.

To date, the BOEM has identified two offshore WEAs off the coast of California. The Humboldt WEA is located approximately 20 miles offshore of the northern California coastline, specifically near Humboldt Bay, and covers 132,369 acres (206.8 square miles). The Morro Bay WEA, located approximately 20 miles offshore of the central California coastline, covers about 240,898 acres.

In December 2022, BOEM leased five offshore wind areas, two within the Humboldt WEA and three within the Morro Bay WEA. The size of each lease area ranged from 63,338 to 80,418 acres. The estimated combined capacity of these five WEAs is about 6 GW.[8] These sites are summarized in Table B3 and displayed in Figure B4.

Table B3: California WEA Lease Sites and Status

Lease Area	Name	Developer	Area	Status	Capacity	Winning Bid
OCS-A 0561	Canopy Offshore Wind	RWE	63,338	Site Control	1,025 MW	$158M
OCS-P 0562	California North Floating	CIP	69,031	Site Control	1,117 MW	$174M
OCS-P 0563	Atlas Winds	Equinor	80,062	Site Control	1,296 MW	$130M
OCS-P 0564	Golden State Wind	EDPR/ENGIE	80,418	Site Control	1,302 MW	$150M
OCS-P 0565	Even Keel Wind	Invenergy	80,418	Site Control	1,302 MW	$145M

Source: Offshore Wind Market Report: 2024 Edition

Following the January 2025 OSW Executive Order issued by the office of President Trump (see Appendix A), effectively all developer-led investment in these five OSW sites has been halted indefinitely. Based on Spring 2025 conversations with several of these developers, it is clear that no additional investment will be made by the developer community unless or until a clear path to federal permitting is restored. Because of this, there is currently no predictable timeframe for when – or if – floating offshore wind will move forward within the existing wind energy areas.

[8] Offshore Wind Market Report: 2024 Edition

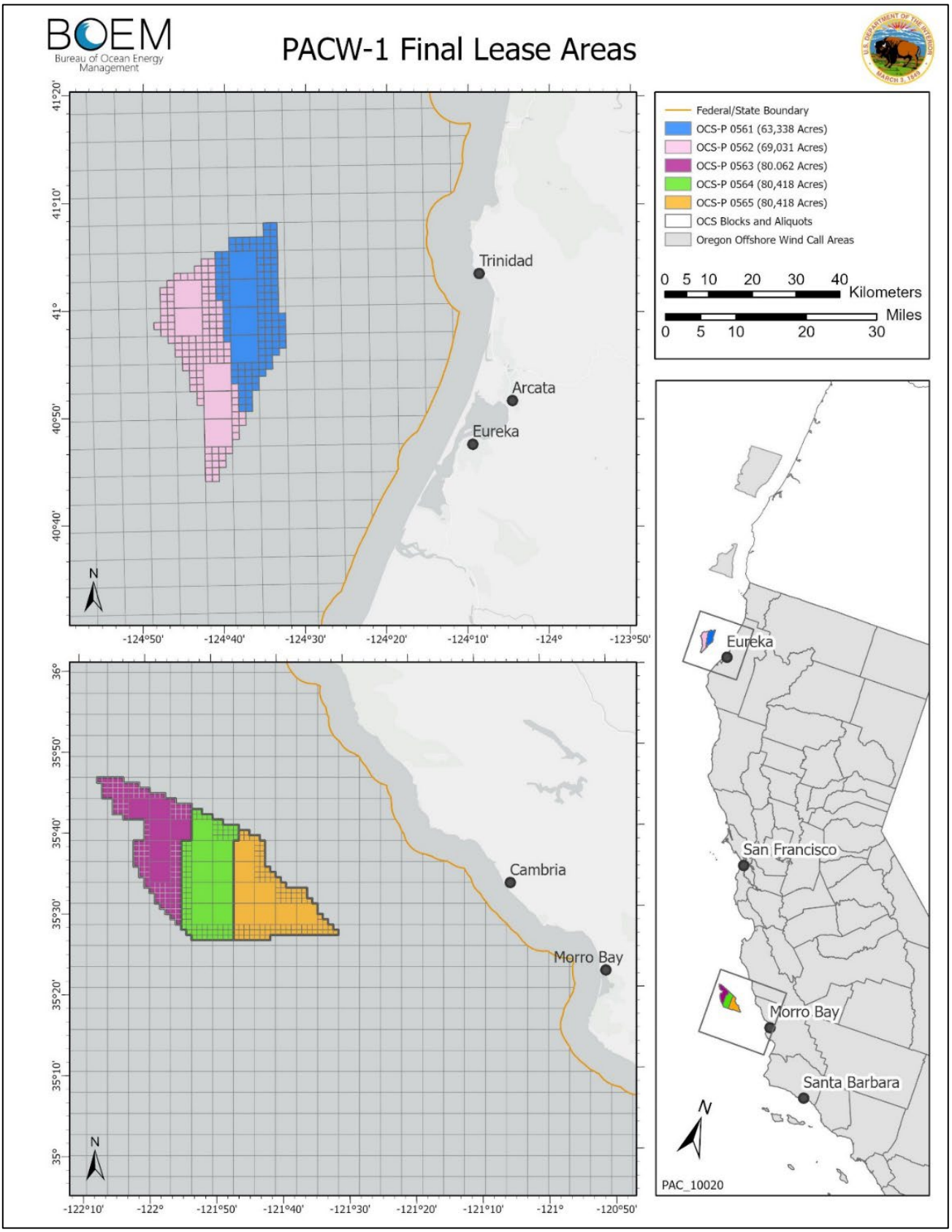


Figure B4: California Final Lease Areas for OSW (source: California Activities | Bureau of Ocean Energy Management)

Federal Policy

In April 2024, USDOE released its report, Pathways to Commercial Liftoff: Offshore Wind.[9] This report describes how the U.S. offshore wind sector is adapting to market challenges and is poised for progress in job creation and expanded access to clean energy. The report finds that "liftoff" of the U.S. offshore wind industry is achievable and lays out a pathway to more than 100 GW of offshore wind capacity by 2050. There are about 8 GW of U.S. offshore wind projects that are past the approval stage in the pipeline today, all on the East Coast. BOEM and the Bureau of Safety and Environmental Enforcement (BSEE) oversee the responsible development of offshore renewable energy resources on the U.S. Outer Continental Shelf (OCS).

Current market structures expose the sector and developers to exogenous risks and require early-mover projects to bear the risk of long-term industry build-out needs. Recent offtake cancellations caused by macroeconomic conditions created funding gaps and timing uncertainty for near-term sector build-out. Costs have increased due to inflation, rising interest rates, supply chain constraints, and schedule delays.

One example of this is when NYSERDA provisionally awarded $300 million in October 2023 for GE Vernova and LM Wind Power to establish nacelle and blade manufacturing facilities in New York's Capital region. However, technical and commercial complexities, including GE Vernova's pivot from the 18-MW platform to a 15.5/16.5-MW platform, prevented final offtake agreements for the offshore wind projects and resulted in the cancellation of the award to GE Vernova.[10]

Governments at the federal and state levels are working together with industry to improve procurement processes, supply chain, and transmission planning to make infrastructure investments.[12] States are responding with additional competitive procurements for affected projects, and improved risk mitigation is being built into industry planning through state and federal leadership. Improved sequencing of offtake agreements and incorporation of risk mitigation strategies can de-risk the advancement of offshore wind.

The Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA) both supported the advancement of offshore wind by providing significant incentives to increase the economic attractiveness of offshore wind energy projects, promote domestic manufacturing and supply chain investments, accelerate permitting and project interconnection, and develop a highly skilled and diversified workforce. To overcome market volatility, these federal laws extended long-term tax credits that increase cost certainty and make project financing more likely. The tax credits provide additional bonuses for developers that use domestically produced iron and steel products and manufactured products. The IRA also created a manufacturing tax credit to spur equipment manufacturers to make new investments in manufacturing capacity for wind turbine blades, nacelles, towers, floating foundations, fixed-bottom foundations, and related offshore wind vessels. Funds were also made available to enhance transmission planning, especially focused on offshore wind, to ensure projects maintain high system reliability when they are interconnected to the grid. BOEM and the National Oceanic and Atmospheric Administration received additional federal support to bolster their permitting staff to ensure timely and robust project reviews and safe project implementation.

Due to the change in administration at the federal level it is unclear which of the above policies and tax incentives will continue. On January 20, 2025, President Trump signed an Executive Order titled:

> *"Temporary Withdrawal of All Areas on the Outer Continental Shelf from Offshore Wind Leasing and Review of the Federal Government's Leasing and Permitting Practices for Wind Projects"*

The full text of this OSW Executive Order is included in Appendix A for reference.

The continuation or withdrawal of any policies and tax incentives will directly impact project planning and investment in the future. Likewise, changing foreign trade policies will also have an impact on offshore wind and infrastructure development. For example, U.S. tariffs on certain imported materials, like steel and aluminum, which are essential for offshore wind components, could cause supply chain bottlenecks and higher project costs or trigger other unexpected supply chain changes. While the goal in California remains to strengthen domestic production and competitiveness in the OSW space, regulatory uncertainty, increased costs and supply chain delays are already very much disrupting OSW project delivery and implementation.

[9] Offshore Wind Deployment - Pathways to Commercial Liftoff
[10] Offshore Wind Market Report: 2024 Edition

That said, for purposes of this report, since the Trump Administration's OSW Executive Order is considered a temporary executive measure, and since multiple entities within the State of California continue to move forward with plans to fund, design and construct OSW wind infrastructure associated with the recommendations of AB 525, the goals and assumptions made by the state prior to January 20, 2025 are still being cited as the most relevant path forward for California's OSW industry.

Supply Chain Infrastructure Development

The OSW infrastructure supply chain infrastructure requires three main elements:

- ports to manufacture, stage, and integrate the turbines
- vessels to tow, install and maintain the turbines
- a power grid capable of handling the energy generated

The following subsections summarize existing and planned supply chain infrastructure developments in California.

Service Life

New marine structures at ports are generally designed for a 50-year service life. With the typical service life of an offshore wind farm being at least 33 years, a 50-year service life for the port infrastructure is appropriate.

Port Facilities

Currently there are two ports in California that have taken the first step towards developing offshore wind related infrastructure. The Humboldt Bay Harbor District (HBHD) received $8.6 million in November 2023 to support the development of an offshore wind terminal, funded through the Port Infrastructure Development Program disbursed by USDOT's Maritime Administration (Huffman 2023). In January 2024, the Humboldt Bay Harbor District secured a $426.7 million grant from USDOT's Nationally Significant Multimodal Freight & Highway Projects (INFRA) grant program. This funding is intended to support the construction and maintenance of offshore wind infrastructure (Huffman 2024). The passage of the Proposition 4 Climate Bond in California in November, 2024 is also expected to result in up to $200 million in state funding to support the Humboldt heavy lift marine terminal project. HBHD has also received approximately $29 million in additional support from the CEC since 2022, including some $18 million as part of the Offshore Wind Energy Waterfront Facility Improvement Program.

The Port of Long Beach (POLB) has announced an ambitious project called Pier Wind, aimed at supporting California's renewable energy goals. It involves the construction of a floating offshore wind facility designed to manufacture and assemble wind turbines. The facility will span up to 400 acres and construction is planned to start in January 2027, with the first phase becoming operational in early 2031. The Long Beach Harbor Commission has agreed to commit up to $14 million in matching funds for a state grant, to cover the cost of design, environmental review and community outreach for Pier Wind. Additionally, the Harbor Commission authorized $6.5 million from the Port's capital budget to continue with environmental documentation and project delivery activities.[11] As with HBHD, the passage of the Proposition 4 Climate Bond in California in November, 2024 is expected to result in up to $200 million in state funding to support Pier Wind. And, also like HBHD, in early 2025, POLB received $20 million from the CEC as part of the Offshore Wind Energy Waterfront Facility Improvement Program.

Other investments in offshore wind port facilities are summarized in Table B4. Apart from California, all other recent investments are on the East Coast. Outside of California, Nucor unveiled Elcyon, a new sustainable heavy-gauge steel plate product tailored for America's offshore wind sector. The steel plates will be produced at the $1.7 billion Nucor Bradenburg mill in Kentucky, which started operations in December 2022.[12] In April 2023, Ørsted announced the investment of $14 million in the co-development of a steel fabrication facility in Maryland with American contractor Riggs Distler, highlighting the commitment to supply chain development and workforce enhancement.[13] While there are secondary steel manufacturing facilities coming up on the East Coast, the West Coast lacks such ancillary facilities.

[11] New Funding Propels Pier Wind at Port of Long Beach—Port of Long Beach
[12] Nucor Unveils New Sustainable Steel Product for America's Offshore Wind Market | Offshore Wind
[13] Orsted advances Maryland offshore wind supply chain with $14m steel fabrication plant | Recharge

Table B4: Investments in Offshore Wind Ports and Manufacturing Facilities from January 1, 2023, to May 31, 2024

Type of Investment	State	Port (If Applicable)	Announced Investment ($ million)	Funding Source
Secondary steel manufacturing	MD	Tradepoint Atlantic	14	Ørsted, Riggs Distler
Tower manufacturing	-	-	700	US Forged Rings
Port development	CA	Port of Humboldt	8.67	DOT Maritime Administration – Port Infrastructure Development Program
Port development	CA	Port of Humboldt	426.7	DOT INFRA program
Monopile manufacturing	NJ	Paulsboro Marine Terminal	58.85	Attentive Wind/TotalEnergies
Monopile manufacturing	NJ	Paulsboro Marine Terminal	105.25	Leading Light Wind/Invenergy
Port development	NY	South Brooklyn Marine Terminal	861	Skanska

Vessels

The domestic OSW vessel fleet has 22 vessels in operation and 30 vessels announced as of May 2024. The greatest share of these vessels are Crew Transfer Vessels (CTVs) and Service Operation Vessels (SOVs), essential for both the construction and the operation and maintenance stages of an offshore wind farm. Other key specialized vessels like Wind Turbine Installation Vessels (WTIVs), feeders, heavy-lift vessels and cable-lay vessels are also essential for the construction stages of an offshore wind farm. WTIVs are self-propelled heavy-lift jack-up vessels designed for the installation of offshore wind turbines. Table B5 shows the number of operational offshore wind vessels by vessel type as of May 31, 2024, according to USDOE's clean energy tracking efforts[14] as well as additional announced vessels of the same type.

Table B5: Operational and Announced U.S.-Flagged Vessels to Serve the Offshore Wind Energy Industry

Vessel Category	Operational	Announced	Total
Crew transfer vessel	13	18	31
Service operation vessel	3	4	7
Barge	3	2	5
Tug	3	2	5

Even though there has been progress in the commissioning and announcement of vessels for offshore wind purposes, they are primarily CTVs and SOVs. The insufficient availability of installation vessels such as WTIVs and other key vessels may pose considerable challenges and risks to the U.S. offshore wind energy sector according to NREL's Offshore Wind 2024 Market report.[15] American Clean Power estimates two to three years for offshore installation per project and requires at least 25 vessel types per project across all stages. This underscores the critical role of vessel availability.

[14] Building America's Clean Energy Future | Department of Energy
[15] Offshore Wind Market Report: 2024 Edition

NREL.[16] reported that without substantial investment in large installation vessels like WTIVs, heavy-lift vessels, and feeder barges, there is a risk of delays for the projects targeted for installation by 2030. Acknowledging the imperative to attract investment in offshore wind vessels, the U.S. Department of Transportation Maritime Administration (MARAD) has designated them as Vessels of National Interest. This designation opens doors to financial support through initiatives like the Title XI Federal Ship Financing Program, advertising credit loans with extended terms and reduced interest rates. As of April 2024, the Title XI program is actively processing four Vessels of National Interest loan applications totaling more than $415 million in requested loans.[17] Funding initiatives of this type may push sponsors closer to agreement for shipbuilding contracts. USDOE also reports that more vessels are needed to meet stated construction goals, highlighting that many announced supply chain facilities face obstacles because of uncertain demand, especially for projects with planned completion between 2025 and 2030 due to uncertain project timelines.

Regional Power Grids

The 2023-2024 Transmission Plan published in May, 2024 by the California Independent System Operator (CAISO) estimates that developing offshore wind resources on the northern California and southern Oregon coasts requires $35–$40 billion in new transmission infrastructure, highlighting the need for proactive, long-term regional planning to optimize costs, reduce environmental impacts, and ensure grid reliability.[18]

Significant investment is needed to upgrade the transmission infrastructure to handle OSW transmission. California's regulator – CAISO – has taken steps to identify specific projects and associated costs to develop this infrastructure in line with AB 525.

California stakeholders have also made progress in investing in grid upgrades to support offshore wind development. In April 2024, CAISO released their draft 2023–2024 Transmission Plan, recommending 26 projects at an estimated cost of $6.1 billion. The largest tranche of funding, $4.59 billion, would be devoted to infrastructure that would carry offshore wind power from the state's isolated northern coast toward hubs of demand like San Francisco. CAISO expects offshore wind generation to start around 2034. While CAISO's plan aligns with the recommendations from the AB 525 Offshore Wind Technologies Assessment published in June 2023, certain critical aspects remain unaddressed, such as the challenges for efficient power transmission at deep-water offshore wind farms.[19]

On May 15, 2024, CAISO published a revised version of the 2023–2024 Transmission Plan draft. The plan received approval from CAISO's Board on May 23.

Role of Ports in OSW Development

As of 2023, the USDOE estimated that $2.1 billion had been invested nationally for offshore wind infrastructure related to port development, vessel orders, workforce development, research, and other supply chain elements.[20] As the State of California advances its offshore wind goals, significant investment highlights the growing opportunities for local ports to play a key role in supporting this emerging industry.

The AB 525 Port Readiness Plan[21] establishes the goal of having waterfront facilities (i.e. ports) support the construction and staging, manufacturing of components, final assembly, and operations and maintenance needs for the development and deployment of floating offshore wind off of California's coast. According to the AB 525 Plan, there are three types of ports required to support floating offshore wind energy development, these include:

- Staging and Integration (S&I)
- Manufacturing/Fabrication (MF)
- Operation and Maintenance (O&M)

[16] A Supply Chain Road Map for Offshore Wind Energy in the United States
[17] DOE-BOEM-Fed-Offshore-wind-v3_w150.updated.pdf
[18] California Independent System Operator. 2024b. 2023–2024 Transmission Plan, May 2024
[19] AB 525 Reports: Offshore Renewable Energy
[20] Offshore Wind Market Report: 2024 Edition
[21] AB 525 Port Readiness Plan, California State Lands Commission and Moffat & Nichol

The following subsections outline each site type, including general descriptions, sample diagrams, and equipment specifications.

Staging and Integration (S&I) Sites

S&I sites are set to receive, stage, and store offshore wind components and to assemble the floating turbine system for towing to the offshore wind area. The S&I wharf accommodates the delivery of components and at least two turbine assemblies moored adjacent to one another, resulting in approximately 1,500 feet of quayside space. At S&I sites, the wharf loading will be higher where the crane for turbine assembly is located. Existing crawler cranes, such as the Liebherr 1300, are not large enough to assemble turbines greater than 15 MW. Thus, ring cranes or larger crawler or mobile cranes will likely be required to integrate components, requiring a loading capacity of 6,000 pounds per square foot (psf) on the wharf.

In addition, S&I facilities are also likely to support turbine maintenance, primarily to perform major maintenance on a fully assembled turbine system that cannot otherwise be performed in the offshore wind area such as replacement of a nacelle or blade.

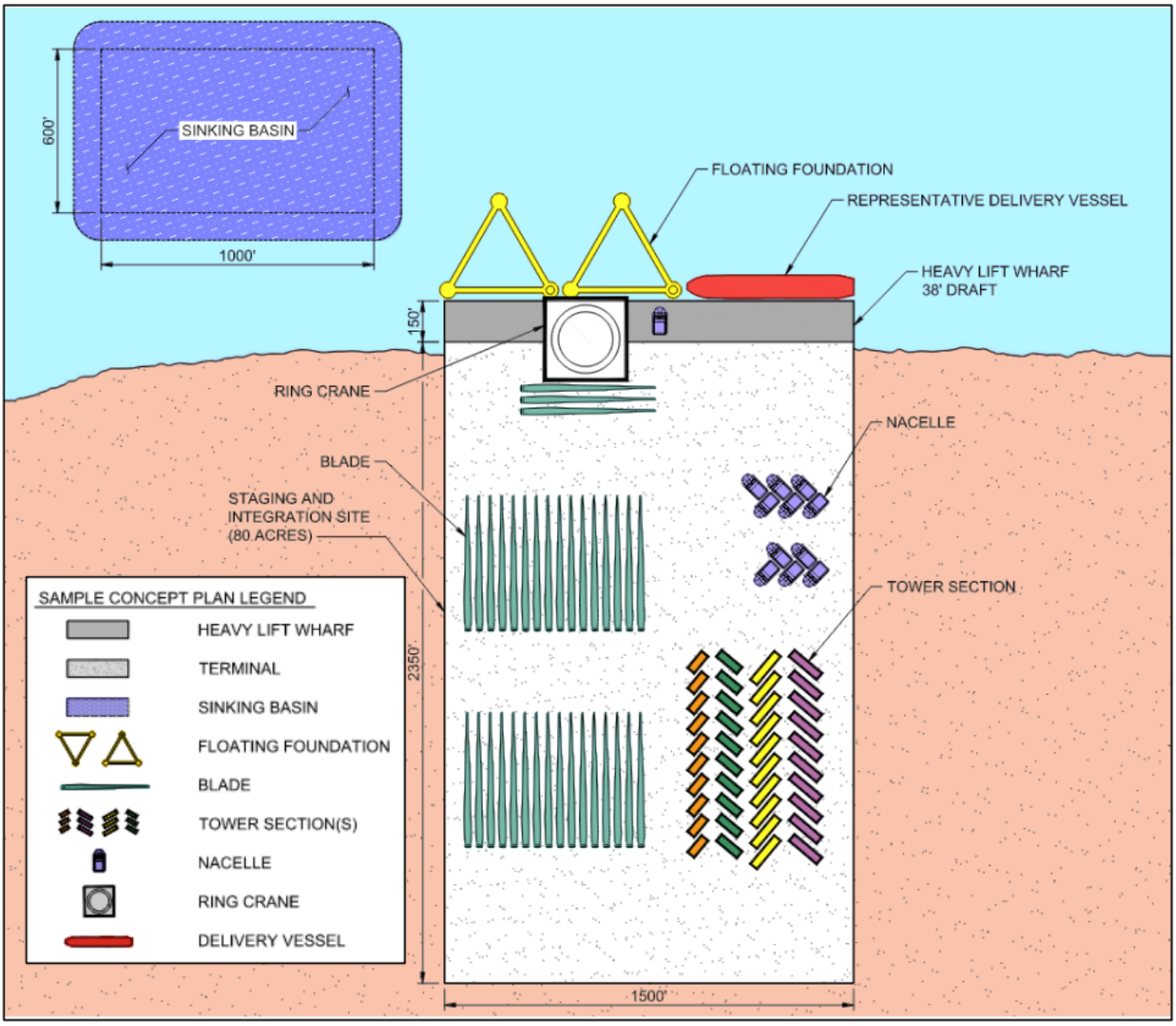


Figure B5: Sample 80-Acre S&I Site Layout (source: AB 525 Port Readiness Plan)

S&I sites are critical to support the development of offshore wind as there are few locations that meet the offshore wind port requirements. Table B6 summarizes the required number of facilities to meet California's targets. The BOEM Port Plan concludes that the Ports of Humboldt, Long Beach, and Los Angeles are the most appropriate locations for staging and integration. The Ports of Humboldt and Long Beach are actively working to become staging and integration sites to meet the most immediate needs of the offshore wind industry.

Table B6: Number of Port Sites or Acreage to Meet 25 GW Offshore Wind Energy by 2045

Type of Site	Low (8 GW)	Low-Med (17 GW)	Medium (25 GW)	Med-High (34 GW)	High (42 GW)
S&I Sites	1 to 3	2 to 4	**3 to 5**	4 to 6	5 to 7
MF Site (Blade)	1	2	**2**	3	3
MF Site (Tower)	1	1	**1**	1	2
MF Site (Nacelle Assembly)	1	1	**1**	1	1
MF Site (Foundation Assembly)	2	3	**4**	5	6
MF Site (Foundation Subcomponents)	2	3	**4**	5	3
SOV berths for O&M Activities	3 to 7	6 to 12	**9 to 16**	12 to 20	15 to 23
Mooring Line & Anchor Storage Sites	5 to 40 ac	10 to 50 ac	**20 to 65 ac**	25 to 75 ac	30 to 90 ac
Electrical Cable Laydown Sites	3 to 15 ac	6 to 20 ac	**9 to 35 ac**	12 to 42 ac	15 to 49 ac

Source: AB 525 Port Readiness Plan

Manufacturing/Fabrication (MF) Sites

MF sites are ports located on a navigable waterway that receives raw materials via road, rail, or waterborne transport and creates larger components in the offshore wind supply chain. This site typically includes factory and/or warehouse buildings and space for storage of completed components.

For such sites, the length of the wharf is dependent on the size of the delivery vessels and delivery barges. In general, the wharf and uplands area for component manufacturing sites shall have a capacity of 2,000—3,000 psf to support offshore wind turbine generator (WTG) components. For component manufacturing and S&I sites, a range of 30—100 acres will be needed depending on the developer and their use.

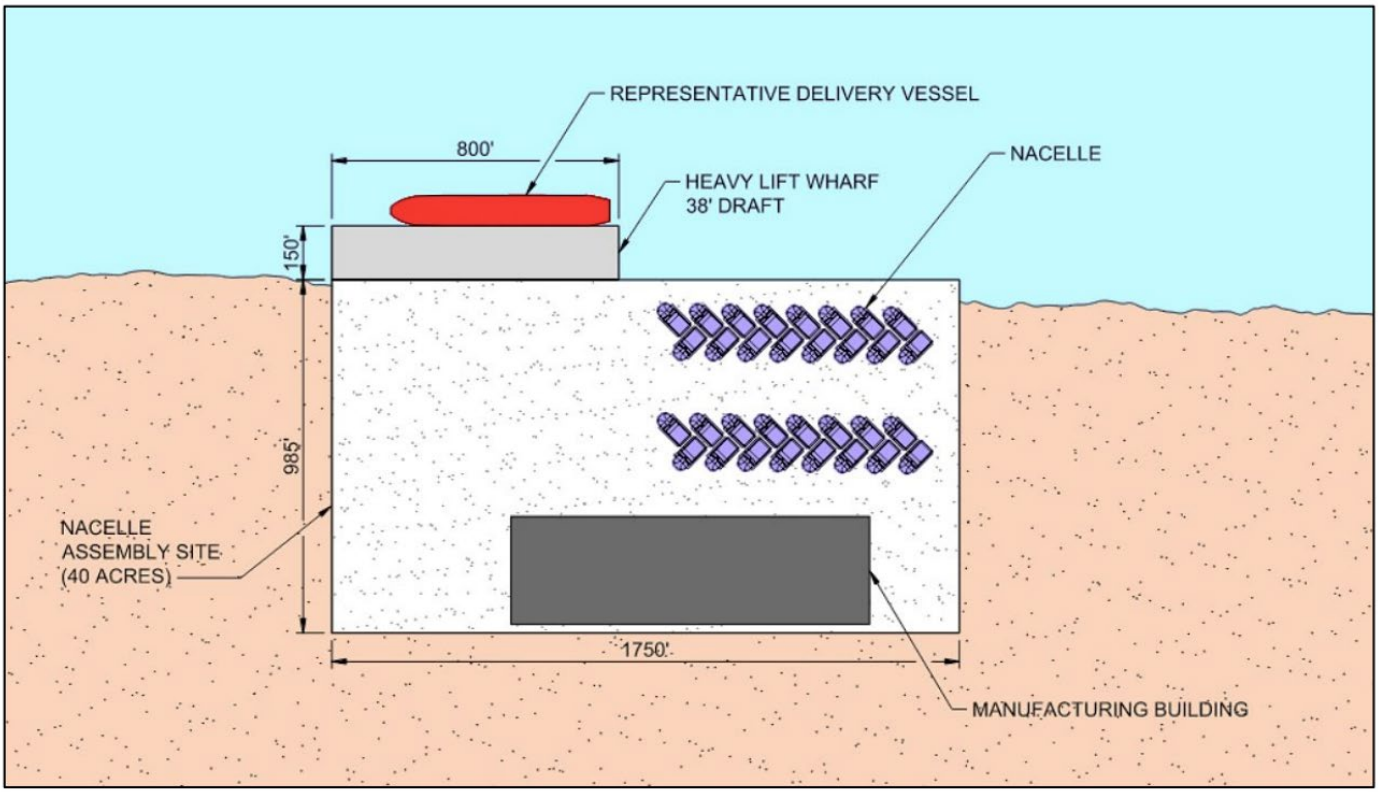


Figure B6: Sample 40-Acre Tower MF Site Layout (source: AB 525 Port Readiness Plan)

Operation and Maintenance (O&M) Sites

O&M sites are ports that form the base of wind farm operations with warehouses/ offices, spare part storage, and marine facilities to support vessel provisioning and refueling/ charging during the operational period of the offshore wind farm. These vessels include:

- Crew Transfer Vessel (CTV) – transfers small crews to offshore wind turbine installations for day-trip O&M visits and inspections
- Service Operating Vessel (SOV) – vessels that loiter and operate as in-field accommodations for workers and platform assist for wind turbine servicing and repair work; this vessel may remain in the vicinity of an offshore windfarm for an extended period of time with a permanent or semi-permanent personnel rotation
- Service Accommodation Transfer Vessel (SATV) – intermediate between SOVs and CTVs, with ability to sleep onboard for multiday trips

Loading capacity at O&M facilities is expected to range from 100—500 psf. The size of an O&M facility ranges from 5-10 acres. For O&M and component manufacturing facilities, the length of the wharf is dependent on the vessel type it serves such as SOV and CTV. All typical requirements for the three different port types are summarized in Table B7.

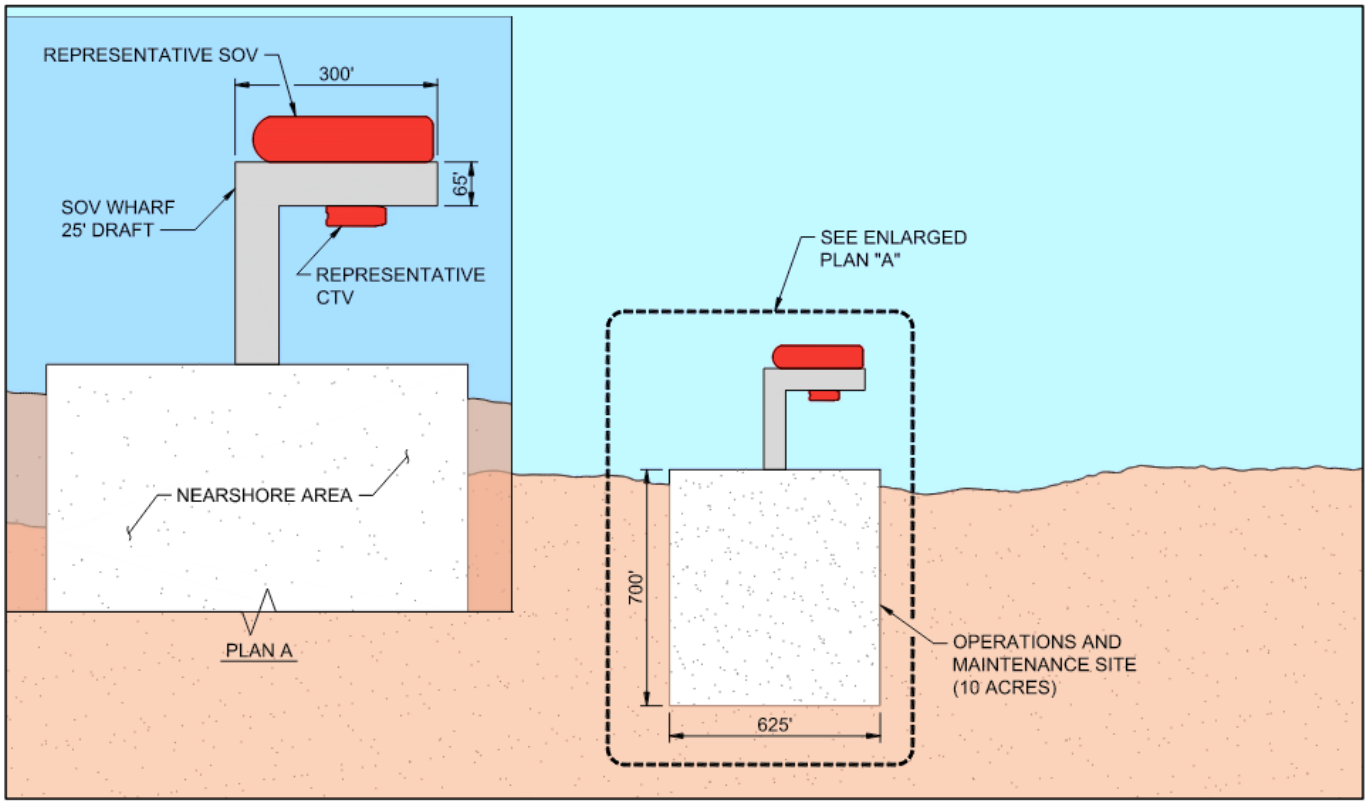


Figure B7: Sample O&M Layout (source: AB 525 Port Readiness Plan)

Table B7: Port Infrastructure Requirements

Floating Offshore Wind Turbine	Approximate Criteria for S&I Sites	Approximate Criteria for MF Sites	Approximate Criteria for O&M Sites
Acreage, minimum	30 – 100 acres	30 – 100 acres	5 – 10 acres
Wharf Length	1,500 ft	800 ft	300 ft
Minimum Draft at Berth	38 ft	38 ft	20 – 30 ft
Draft at Sinking Basin*	40 – 100 ft	N/A	N/A
Wharf Loading	> 6,000 psf	Up to 6,000 psf	100 – 500 psf
Uplands / Yard Loading (for WTG components)	> 2,000 – 3,000 psf	> 2,000 – 3,000 psf	N/A

*Options for transfer of floating foundation from land to water include use of semi-submersible barge and sinking basin, ramp system, or direct transfer methods (lifting portions or complete foundation units from land into water)

Source: AB 525 Port Readiness Plan

In addition, there are general port requirements that are common across all port roles undertaking offshore wind development:

- Roll-on/Roll-Off (Ro-Ro) Capabilities

  Port sites typically have ro-ro capabilities built into the wharf and yard to allow for a range of fabrication and assembly needs. Of particular importance would be to allow for inside port transfers between multiple facilities. This may require the construction of a sinking basin deeper than the proposed navigation channel depth.

- Green Ports

  New port terminals shall have infrastructure and equipment to support state and federal carbon reduction initiatives, including electrification of the terminal operations and the ability to accommodate vessel shore power. Considering greenhouse gas emission reduction initiatives and desire to develop green ports, considerable load on the transmission grid may be needed. An assessment of power grid upgrades for the proposed development site will be needed to assess the range of power transmission upgrades needed to meet the vessel and terminal operational needs.

- Shoreside Vessel Services

  Port sites will require all standard ship services (e.g., potable water), shore power and security requirements.

- Buildings

  Indoor storage/warehouses are required for some items (e.g., floating foundation mechanical equipment, painting, welding, etc.).

Given the infrastructure requirements for each port and the total number of such facilities that will be needed to meet California's targets, a coordinated multiport strategy will be needed and could require more than 16 large and 10 small port sites to support offshore wind development beyond the next decade. Importantly, staging and integration sites, and operations and maintenance sites are essential. However, manufacturing and fabrication sites are less essential since components can be imported.

Comparison of California Ports

Currently, existing port sites on the West Coast are not ready to serve the offshore wind industry from a port infrastructure perspective (i.e., wharf, navigation channel, backlands, etc.). All potential port sites will require some level of investment to upgrade existing facilities, such as construction of a new wharf to withstand heavier loading or dredging navigation channels and/or berth pockets. BOEM's Port Readiness Plan focuses its assessment on S&I, MF, and O&M sites.[22] The following general criteria were utilized to assess each port:

- Distance to nearest boundary of BOEM lease areas.
- Availability of adequate uplands with capability to support/be improved to support heavy loading operations.
- Adequacy of existing navigation channel, including entrance channel depth and width, channel depth and width for both existing and planned conditions including maintenance dredging requirements.
- Existing and planned infrastructure projects (bridges, airports, tunnels) that may impact operations.
- Air draft at bridges or other overhead obstructions (e.g., overhead power lines).
- Potential for port expansion or development of a new in-water area.

Table B8 summarizes this assessment for each Californian port. Based on the criteria, the Port of Benicia's distance from the two WEAs and the port's relatively small area for development (20 acres), the Port of Benicia is best suited as an Manufacturing / Fabrication (MF) site.

[22] AB 525 Port Readiness Plan

Table B8: Summary of Potential California Offshore Wind MF Port Sites

Port Location	Bridge Vertical Clearance (ft)	Distance to Humboldt WEA (Nautical Miles)	Distance to Morro Bay WEA (Nautical Miles)	Channel Depth (ft)	Possible Site Types	Potential Sites
Antioch	132	295	200	35	MF	(1) 100-acres MF site
China Harbor	None	425	30	See ****	S&I	(1) 80-acres S&I site
City of Alameda	174	255	160	20-30	O&M	(1) O&M site
City of Morro Bay	None	430	55	15-24	O&M	(1) O&M site
City of Pittsburg	132	290	195	35	MF	(1) 100-acres MF site
Crescent City Harbor District	None	50	400	14-20	O&M	(1) <10-acres O&M site
Diablo Canyon Power Plant	None	445	70	< 25	O&M	(1) O&M or construction support site
Ellwood Pier	None	595	150	See ****	O&M	(1) O&M site
Gato Canyon	None	590	145	See ****	S&I	(1) 80-acres S&I site
Monterey Harbor	None	345	75	< 10	O&M	(1) O&M site
Moss Landing Harbor	None	340	85	15	O&M	(1) O&M site
Pillar Point Harbor	None	280	115	20	O&M	(1) O&M site
Port of Benicia	132	275	180	45	MF	(1) 20-acres MF site
Port of Hueneme	None	570	200	30-45	O&M	(1) O&M site. Not a candidate for MF, however an assessment of military uses was not addressed in this study.
Port of Humboldt	None	25	360	38 - 48	S&I, MF, O&M	(4) 80-acres S&I / MF sites and (6+) <10-acres O&M sites
Port of Long Beach	See **	580	225	> 50	S&I, MF	(1) 400-acres S&I / MF site (1) 20-acres MF site
Port of Los Angeles	See *	580	225	> 50	S&I, MF	(1) 100-200-acres S&I / MF site (2) 10-30-acres MF sites

Source: AB 525 Port Readiness Plan

Project Development Process and Timing

To meet California's offshore wind deployment goals, the timing of when these offshore wind port sites are available to the industry is critical. While S&I sites are the most critical type, if a domestic supply chain is to be established within California, MF sites would need to be available by late 2020s to mid-2030s to supply components to the initial and future offshore wind projects.

To plan, design, and construct these offshore wind port sites, the following general stages are involved:

- Secure funding for project implementation
- Project planning, conceptual design, and vetting of project alternatives
- Consultation with Native American tribes
- Federal and/or state environmental review and compliance
- Coordination with permitting agencies and affected stakeholders; detailed engineering
- Obtaining project permits
- Construction

While detailed studies/planning is needed for each of these steps, the California Floating Offshore Wind Regional Ports Feasibility Analysis[23] compared required port infrastructure, associated cost, and environmental impacts across California's ports. The permitting process is relatively common across ports. All other steps of project development are more unique to each site and need to be thoroughly studied accordingly.

Port Infrastructure Requirements

All ports featured in Figure B8 underwent an evaluation to determine the required improvements and estimated costs to develop their respective sites for development of the offshore wind industry, specifically for manufacturing/fabrication roles. The evaluation for site improvements is detailed below:

- All Sites
    - Demolition

      Demolition is included for any existing structures or features such as a wharf, buildings on site, or any pavement.

    - Wharf

      A new wharf that can withstand 6,000 psf loading is required. The width is assumed to be 150 ft, and the length is assumed to be 800 ft for a delivery vessel.
- Port of Benicia, Port of Stockton, Port of Richmond, Port of Redwood City
    - Site Acreage

      Based on previous outreach to the Port of Benicia and Port of Redwood City, potentially 20 acres of existing uplands space may be available for an MF site. For the Port of Stockton and Port of Richmond, potentially 14 of the 40 acres of existing uplands space may be available for an MF site. The uplands area shall support at least 2,000 to 3,000 psf.

      Berth Pocket Dredging: The berth pocket at the wharf shall be dredged to a minimum water depth of 38 ft.
- Port of San Francisco
    - Site Acreage

      Based on previous outreach to the Port of San Francisco, potentially 95 acres of existing uplands space may be available for an MF site at each port. The uplands area shall support at least 2,000 to 3,000 psf.

    - Berth Pocket

      The berth pocket at the wharf is greater than 38 ft and meets the minimum requirement, therefore dredging is not required.
- Port of Oakland
    - Site Acreage

      Based on previous outreach to the Port of Oakland, potentially 40 acres of existing uplands space may be available for an MF site at each port. The uplands area shall support at least 2,000 to 3,000 pounds per square feet (psf).

[23] Source: California Floating Offshore Wind Regional Ports Feasibility Analysis, 2023

- Berth Pocket

  The berth pocket at the wharf is greater than 38 ft and meets the minimum requirement, therefore dredging is not required.

- Antioch and Pittsburg
  - Site Acreage

    Based on previous outreach to private terminals in Antioch and Pittsburg in the San Francisco Bay Area, potentially 100 acres of existing uplands space may be available for an MF site at each location. The uplands area shall support at least 2,000 to 3,000 psf

  - Berth Pocket Dredging

    The berth pocket at the wharf shall be dredged to a minimum water depth of 38 ft.

- Port of San Diego
  - Site Acreage

    Based on previous outreach to the Port of San Diego, potentially 40 acres of existing uplands space may be available for an MF site. The uplands area shall support at least 2,000 to 3,000 pounds per square feet (psf).

  - Berth Pocket Dredging

    The berth pocket at the wharf shall be dredged to a minimum water depth of 38 ft. The cost for a 20-acre or 40-acre MF site within the San Francisco Bay Area generally costs the same between the various ports/facilities. The construction duration to provide a 40-acre MF site and 800 feet heavy lift wharf could be between 4 to 5 years.

- Humboldt Bay Harbor District (HBHD), POLB, Port of Los Angeles
  - These three ports can serve both S&I and MF functions. They have identified a significant amount of acreage but the distribution of acreage for S&I sites versus MF sites is currently unknown and will be driven by the offshore wind industry needs.

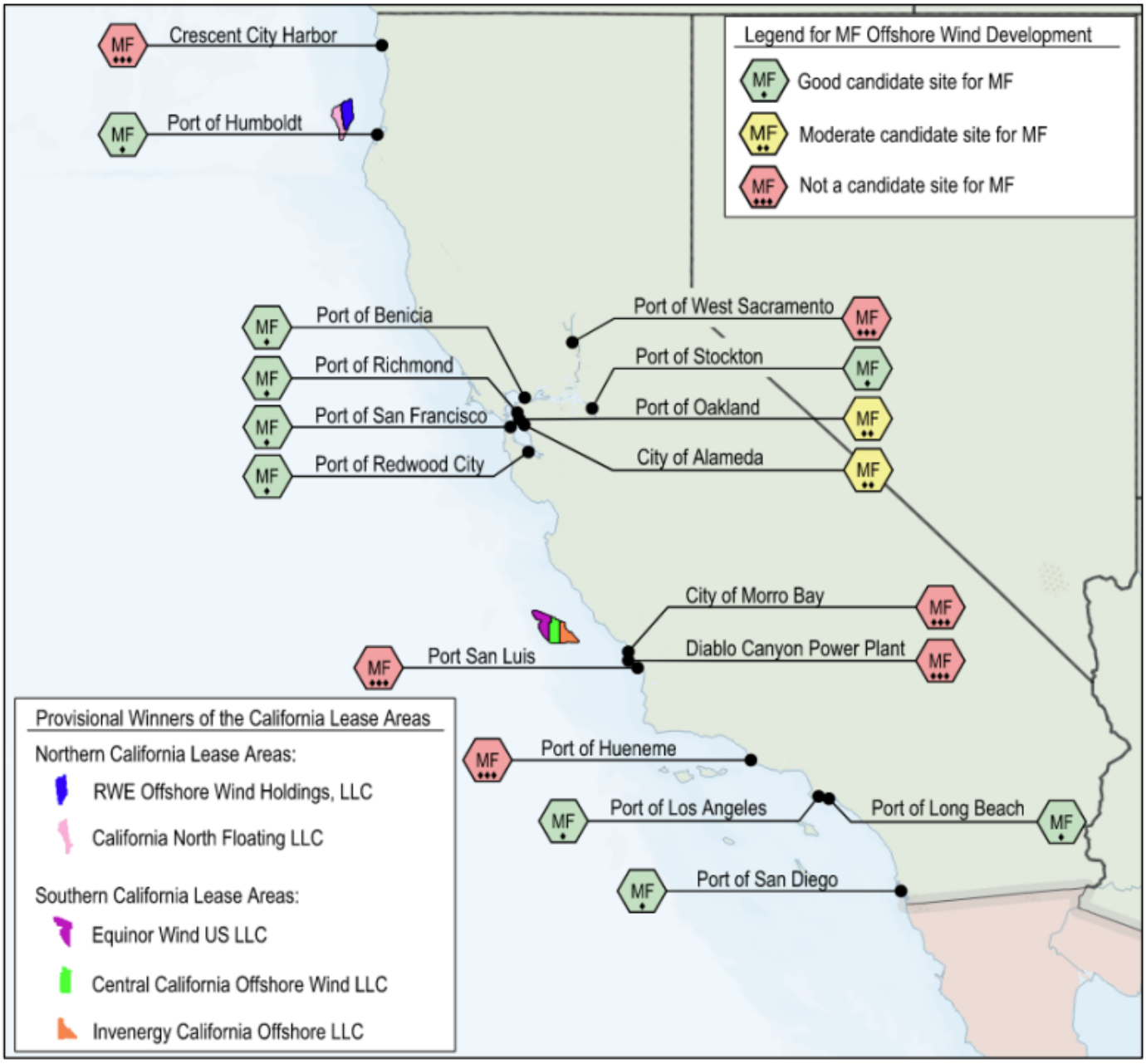


Figure B8: Candidate Status of California Ports (source: BOEM Environmental Studies Program Report Template 2021)

Costs

The BOEM Regional Ports Feasibility Analysis.[24] assessed each port site to determine the infrastructure improvements required to meet the criteria in the previous section and developed cost estimates and general construction durations. The study developed cost estimates for all ports types, however since Benicia is best suited as an MF port (as per Table B8), only MF port costs are detailed below.

Cost estimates were developed to an Association for the Advancement of Cost Estimating (AACE) Class 5 level of accuracy. The typical expected cost variation for such Class 5 estimate is -20% to -50% on the low range and +30% to 100% on the high range. Cost estimates were developed with the following approach:

[24] BOEM-2023-038

1. Determine the infrastructure improvements required for MF ports
2. Calculate quantity take-offs for the various types of infrastructure improvements required (i.e., dredging, wharf construction, upland improvements, etc.)
3. Once quantifiable values are established for required infrastructure improvements, unit costs for each item based on the location of the site and information from previous studies/projects were applied

Additional assumptions for the construction cost estimates are detailed below.

- The costs have been developed based on historical and current data using information from previous studies as well as budget price quotations solicited from local suppliers and contractors. All costs are in 2023 U.S. Dollars. Estimates do not include escalation to account for increases in the cost of labor, equipment, or materials due to continuing price changes over time.
- Cost estimates include all material, labor, and equipment to complete the work and indirect costs including Contractor Supervision (General Conditions), Corporate Overhead and Profit, and Bonds and Insurance costs.
- A project contingency of 50 percent is applied to cover undefined items due to the level of engineering carried out at this time. The contingency is not a reflection of the accuracy of the estimate. It covers items of work that will have to be performed and elements of costs that will be incurred but are not explicitly detailed or described due to the level of investigation, engineering, and estimating completed. A contingency of 50 percent is a common assumption for this level of design for port structures. Note, these construction cost estimates exclude any above-grade construction (i.e., warehouses and buildings) to facilitate fair cost comparisons as each developer will determine the necessary above-grade construction for each site. In addition, the cost estimates do not include any costs for navigation channel improvements such as widening or deepening, wet storage, or equipment such as SPMTs or cranes. Since the port of Benicia is considered as an MF port in the study, Table B9 compares the costs particularly for MF ports.

Table B9: MF Site Infrastructure Requirements and Associated Cost Estimates

Site Requirements	Port of Redwood City	Port of Benicia	Port of Stockton	Port of Richmond	Port of Oakland	Port of San Francisco	Port of San Diego	Antioch	Pittsburg
Site Acreage	20 acres	20 acres	40 acres	40 acres	40 acres	95 acres	40 acres	100 acres	100 acres
Site Load Capacity	2,000 - 3,000 psf	2,000 - 3,000 psf	2,000 - 3,000 psf	2,000 - 3,000 psf	2,000 - 3,000 psf	2,000 - 3,000 psf	2,000 - 3,000 psf	2,000 - 3,000 psf	2,000 - 3,000 psf
Wharf Length	800 ft	800 ft	800 ft	800 ft	800 ft	800 ft	800 ft	800 ft	800 ft
Wharf Capacity	6,000 psf	6,000 psf	6,000 psf	6,000 psf	6,000 psf	6,000 psf	6,000 psf	6,000 psf	6,000 psf
Berth Pocket Dredging	-38 ft	-38 ft	-38 ft	-38 ft	-50 ft	-40 ft	-38 ft	-38 ft	-38 ft
Total Cost Estimate	$300M	$325M	$350M	$375M	$350M	$480M	$275M	$520M	$520M
Cost Accuracy Range	$200M to $450M	$225M to $500M	$250M to $525M	$275M to $575M	$250M to $525M	$350M to $720M	$200M to $425M	$375M to $$800M	$375M to $800M
	-30%/+50%	-30%/+50%	-30%/+50%	-30%/+50%	-30%/+50%	-30%/+50%	-30%/+50%	-30%/+50%	-30%/+50%
Cost Per 20 Acres	$300M	$325M	$300M	$320M	$300M	$290M	$225M	$300M	$300M
Cost Per 40 Acres	N/A	N/A	$350M	$375M	$350M	$345M	$275M	$350M	$350M

Source: California Floating Offshore Wind Regional Ports Feasibility Analysis, 2023

From an infrastructure investment perspective, the cost of site improvements to Benicia is similar to other port sites in California. Thus if California continues to pursue its current 2045 target of 25GW, there will likely be demand for an MF site near Benicia. Other ports in California will also need to develop, and those with larger sites/more available land could – and likely will – manufacture towers and blades while those closer to the final installation site are expected to serve as S&I sites (i.e. Humboldt, Long Beach). Benicia as an MF site for smaller components would fit well into this supply chain. It is important to note that this market will primarily be determined by California's policy incentives and continued push towards OSW.

Environmental Impact

The environmental evaluation and site ranking was completed using a comparative approach for the previously identified California candidate sites. Within each port site type (S&I, MF, O&M), each potential site location was evaluated using a standard set of environmental factors, and then compared to the other potential locations of the same type. The potential site locations were then ranked in order of likely severity of potential environmental concerns. The environmental factors were selected to allow a standardized comparison across all sites, and they were adjusted based on the conceptual size and extent of construction required for each port site type. All eight factors were given equal weight in the ranking process. The factors used in the environmental ranking process are listed in Table B10.

Table B10: Environmental Ranking Factors

Ranking Factor	Site Type
Factor 1: Federal, State, and regional parks and protected areas	**S&I, MF, O&M**
Factor 2: Existing infrastructure development at the site	**S&I, MF, O&M**
Factor 3: Compatibility of development with surrounding land use	**S&I, MF, O&M**
Factor 4: Environmental justice demographic index	**S&I and MF – considered a five-mile radius O&M – considered a one-mile radius**
Factor 5: Viewshed sensitivity	**S&I, MF**
Factor 6: Terrestrial biological resources	**S&I, MF, O&M**
Factor 7: Marine and aquatic resources	**S&I, MF, O&M**
Factor 8: Cultural resources	**S&I, MF, O&M**

1. Federal, State, and Regional Parks and Marine Protected Areas

   Within each category the sites were ranked comparatively, with a lower score being assigned to sites near the fewest number of protected areas, and a higher score being assigned to sites near the greatest number of protected areas. Federally or state-protected areas (including proximity to the proposed CHNMS) were given more weight in the ranking than a local or regional park. Benicia is expected to have among the least impact in this category. Only the ports of Redwood, Antioch and San Francisco have medium or high impact.

2. Existing Infrastructure Development at the Site

   Each site was ranked as low, middle, or high per the following metrics:

   - A low score indicates that the site contains infrastructure development that can support the defined facility's use (i.e. existing ports)
   - A middle score indicates that some degree of infrastructure exists at the site, but extensive development would be required to support operations at the site
   - A high score indicates that the proposed site is largely undeveloped and/or does not contain existing infrastructure that can already support the defined use of each site
   - All ports examined in California were seen to have low impact due to new infrastructure development

3. Compatibility of Development with Surrounding Land Uses

   Each site was ranked for its compatibility of the potential port development with the existing land uses based on the following metrics:

   - A low score indicates that the onsite and adjacent land uses would be compatible with the defined site's use

- A middle score indicates that the onsite use would be compatible, but the adjacent land uses would not be compatible with the site/activity
- A high score indicates that the onsite and adjacent land uses would not be compatible with the defined use of each site
- Benicia has a medium score against this factor. Other ports, such as the Ports of Los Angeles, Richmond, Antioch, and San Francisco, all score better and have both onsite and adjacent land use that is compatible.

4. Environmental Justice Demographic Index

   The Demographic Index for each site was compared with the other sites in each category, and the sites were ranked from the lowest index (where facility construction and operation would have the least effect on disadvantaged populations) to the highest index (where a major project would have more potential to affect disadvantaged populations). A higher demographic index indicates the likelihood that a project would affect an area with a larger disadvantaged population (i.e., low-income and/or high minority) within the defined radius. This is where Benicia has the greatest advantage relative to other ports in the state. Benicia, along with the Port of Humboldt, is expected to have the least impact on disadvantaged communities.

5. Viewshed Sensitivity

   MF sites were compared (within site categories) for their likely sensitivity to visual change that would result from the construction and operation of the defined facilities. The assessment was based on the technical team's knowledge of the sensitivity of each location. A lower score was given to sites that are not visually sensitive, a middle score was given to sites that are somewhat visually sensitive, and a higher score was given to sites that are visually sensitive. Benicia is expected to have a medium impact on view shed, with other California ports having both more and less impact than Benicia.

6. Terrestrial Biological Resources

   A series of factors from number of endangered species within one mile, sensitive plants and habitats, essential fish and bird areas were all considered. Each of these factors were ranked into three categories of likely impact severity: low, medium, and high. The aggregate of all rankings resulted in the overall site rankings within each offshore wind port site type. Benicia is one among four ports with the least impact in the state, the others being Ports of Los Angeles, Richmond and Stockton.

7. Marine and Aquatic Resources

   The site ranking process for potential effects on marine and aquatic resources includes consideration of the following data:

   - Location of the port site within an existing or proposed MPA or marine sanctuary (including the proposed CHNMS)
   - Potential presence of cetaceans (i.e. whales, porpoises, dolphins), pinnipeds (seals, sea lions), and listed species of fish and other aquatic species of concern
   - Potential presence of coastal seabirds, especially those listed as threatened or endangered
   - Potential presence of important vegetation (i.e. kelp, eelgrass)
   - Critical habitat for protected species
   - Likely extent of construction that would affect marine and aquatic species (dredging, testing, fill, construction of breakwaters, pile driving) and potential construction effects (turbidity, sound impacts, mitigation for fill and take of protected species)

   The data assembled for each site allowed the team to rank sites into three categories of likely impact severity: low, medium, and high. Benicia's impact here is medium. The ports of Los Angeles and Humboldt have a lower impact on marine resources.

8. Cultural Resources

The cultural resources site ranking process included consideration of the following data:

- Prehistoric sites located within the port site boundaries
- Historic sites within the port site boundaries
- Prehistoric sites within 0.5 mile of the port site
- Historic sites within 0.5 mile of the port site
- Sites listed or eligible for the NRHP or CRHR within the port site boundaries
- Sites listed or eligible for the NRHP or CRHR within 0.5 mile of the port site
- Shipwrecks within/adjacent to the port site boundary
- Shipwrecks within 0.5 mile of the port site boundary
- Sacred Lands in proximity to the port site

These data were assembled for each site, allowing the environmental team's archeologist to rank port sites into three categories of likely impact severity: low, medium, and high. Benicia has a medium impact with Los Angeles, San Francisco and the Port of Redwood City having lower impacts.

Table B11 and Table B12 summarize these rankings. The Port of Benicia overall would experience among the least environmental impacts of any candidate port if developed for OSW MF activity. Along with the Port of San Francisco, Port of Benicia does not rank as having the greatest impact in any of the eight categories. It is important to note that these are relative rankings. Individual National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) compliant evaluations are still required for any development. However, relative to other ports in the state, Benicia is expected to have a lower overall environmental impact than most other sites.

Table B11: MF Site Comparative Rankings by Factor

Manufacturing Sites	State and Federal Protected Areas	Existing Infrastructure Development	Land Use Compatibility	Demographic Index (EJ 5-mi Radius)	Viewshed Sensitivity	Terrestrial Biology	Marine / Aquatic Biology	Cultural Resources
Ports of LA & LB	Least Impact	Least Impact	Least Impact	Greatest Impact	Least Impact	Least Impact	Least Impact	Least Impact
Port of Benicia	Least Impact	Least Impact	Medium Impact	Least Impact	Medium Impact	Least Impact	Medium Impact	Medium Impact
Port of San Francisco	Medium Impact	Least Impact	Least Impact	Medium Impact	Least Impact	Medium Impact	Medium Impact	Least Impact
Port of Humboldt	Least Impact	Least Impact	Medium Impact	Least Impact	Medium Impact	Greatest Impact	Least Impact	Medium Impact
Pittsburg	Least Impact	Least Impact	Medium Impact	Medium Impact	Medium Impact	Medium Impact	Greatest Impact	Medium Impact
Antioch	Medium Impact	Least Impact	Least Impact	Medium Impact	Medium Impact	Medium Impact	Greatest Impact	Medium Impact
Port of Richmond	Least Impact	Least Impact	Least Impact	Greatest Impact	Greatest Impact	Least Impact	Medium Impact	Greatest Impact
Port of Stockton	Least Impact	Least Impact	Medium Impact	Greatest Impact	Greatest Impact	Least Impact	Greatest Impact	Medium Impact
Port of Redwood City	Greatest Impact	Least Impact	Medium Impact	Medium Impact	Greatest Impact	Medium Impact	Greatest Impact	Least Impact

Note: Rankings of Least Impact, Medium Impact, and Greatest Impact were determined only by comparing the analyzed sites to each other (i.e., the sites shown within this table).

Table B12: Overall MF Site Comparative Rankings

Manufacturing Sites	Impact Tier
Ports of LA & LB	**Least Impact**
Port of Benicia	**Least Impact**
Port of San Francisco	**Least Impact**
Port of Humboldt	**Medium Impact**
Pittsburg	**Greatest Impact**
Antioch	**Greatest Impact**
Port of Richmond	**Greatest Impact**
Port of Stockton	**Greatest Impact**
Port of Redwood City	**Greatest Impact**

Note: Rankings of Least Impact, Medium Impact, and Greatest Impact were within this table).

Permitting

The environmental review process can be initiated with the applicable federal, state, and/or local lead agencies after project funding has been secured, and the conceptual design has progressed to allow for the development of a project description. The timeline for environmental review is outside the control of the developing port. In addition to compliance with NEPA, port improvements in California will require compliance with CEQA. When a project requires multiple federal, state, regional, and/or local approvals, joint NEPA/CEQA environmental review processes are encouraged where feasible to help avoid redundancy, improve efficiency and support interagency cooperation.

Projects of similar size and scale previously developed near the proposed sites considered in this study have taken from three to over ten years from project planning to securing all permits and environmental approvals for construction. Considering the regulatory environment in California, the window for securing all required approvals could range from four to eight years for MF sites.

U.S. Domestic Wind Turbine Supply Chain

Over the years, the U.S. wind energy market has expanded significantly, evolving into a highly complex supply chain. Today, more than 500 manufacturing facilities across the country support turbine assembly and produce key wind components, including blades, towers and generators.[25] This growing domestic supply chain has boosted the U.S.-sourced content in wind turbines installed nationwide, with over 80 percent of nacelle assembly and up to 70 percent of tower manufacturing now taking place within the U.S.[26]

Federal incentives from the previous administration may have influenced this growth in production. The IRA included production-based tax credits (PTC) that supported domestic manufacturing of key wind turbine components, including nacelles, blades, and towers.[27] It also extended the PTC for wind power deployment, inclusive of a 10 percent bonus on top of the full-value PTC for wind projects that met domestic content requirements (a separate 10 percent bonus was available for projects located in energy communities).

Figure B9 identifies the many wind turbine component manufacturing, assembly, and other supply chain facilities operating in the U.S. as of the end of 2023. It also highlights the geographic breadth of the supply chain.

[25] Wind Manufacturing and Supply Chain | Department of Energy
[26] Wind Manufacturing and Supply Chain | Department of Energy
[27] Land-Based Wind Market Report_2024 Edition.pdf

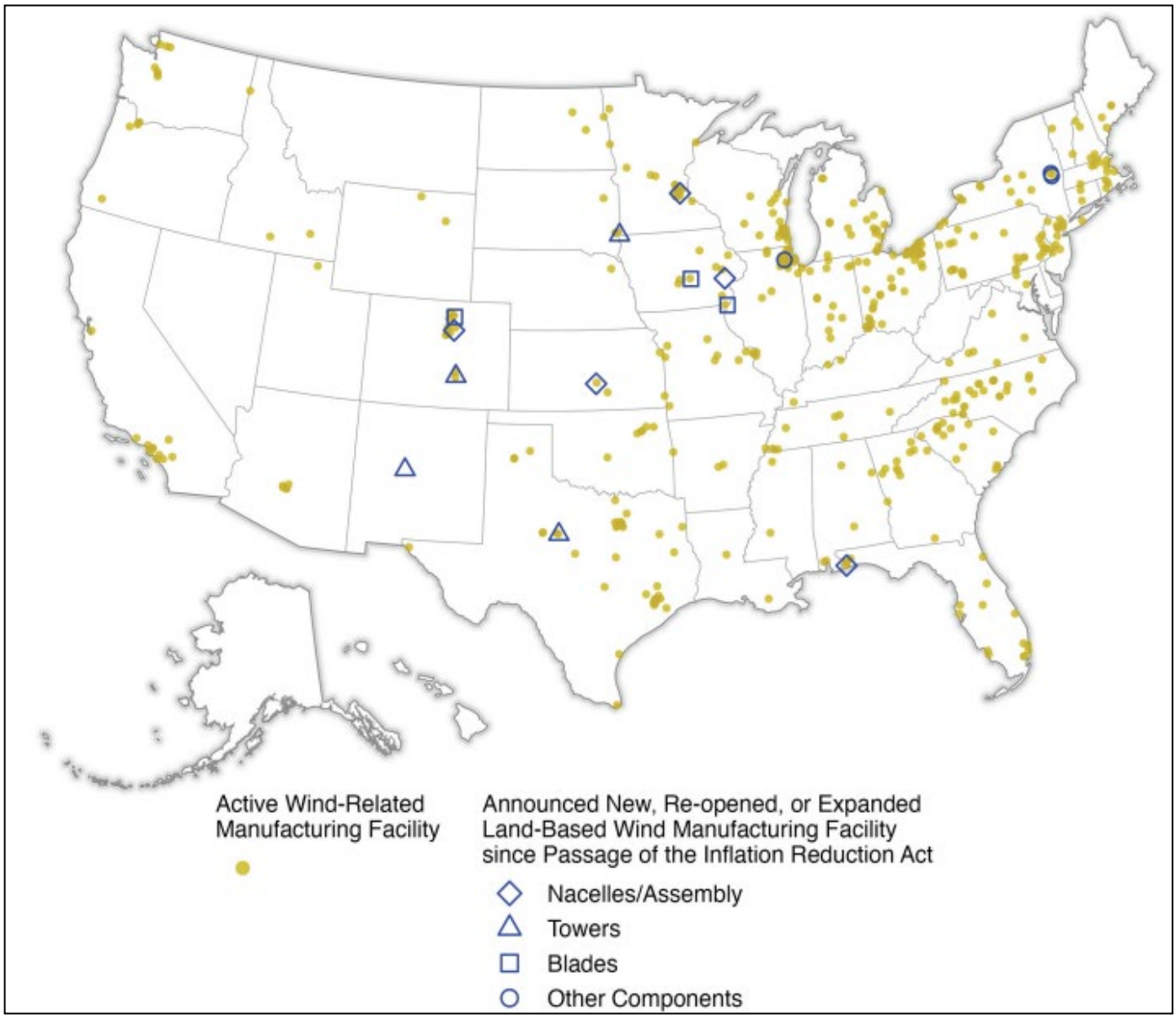


Figure B9: Location of Turbine and Component Manufacturing Facilities, 2022 (source: U.S. Department of Energy, ACP)

Original Equipment Manufacturers (OEMs)

There are four major original equipment manufacturers (OEMs) in the U.S. wind turbine sector. Of the 6.5 GW of wind installed in 2023, GE Vernova supplied 58 percent, followed by Vestas (30 percent), Nordex (nine percent), and Siemens Gamesa Renewable Energy (SGRE, four percent). GE Vernova and Vestas have dominated the U.S. market for some time, with SGRE and Nordex vying for the third spot. Notably, while three of these providers have significant operations and manufacturing capacity domestically, Nordex has scarce domestic manufacturing presence.

Supply-Demand Balance

Domestic turbine nacelle assembly capacity represents the highest number of nacelles that U.S. manufacturing plants can assemble annually when running at full operational capacity. As shown in Figure B10, this value grew from less than 1.5 GW in 2006 to more than 13 GW in 2012. In 2015, it fell to approximately 10 GW and then rose to 15 GW in 2018. Since, it has held largely steady.

Figure B10 contrasts this equipment manufacturing capability with past U.S. wind additions as well as near-term forecasts of future installations. It demonstrates that domestic manufacturing capability for towers and nacelle assembly remains relatively balanced with near-term projected wind additions, but that blade manufacturing capability has dropped well below near-term wind additions as international suppliers outcompete domestic ones.

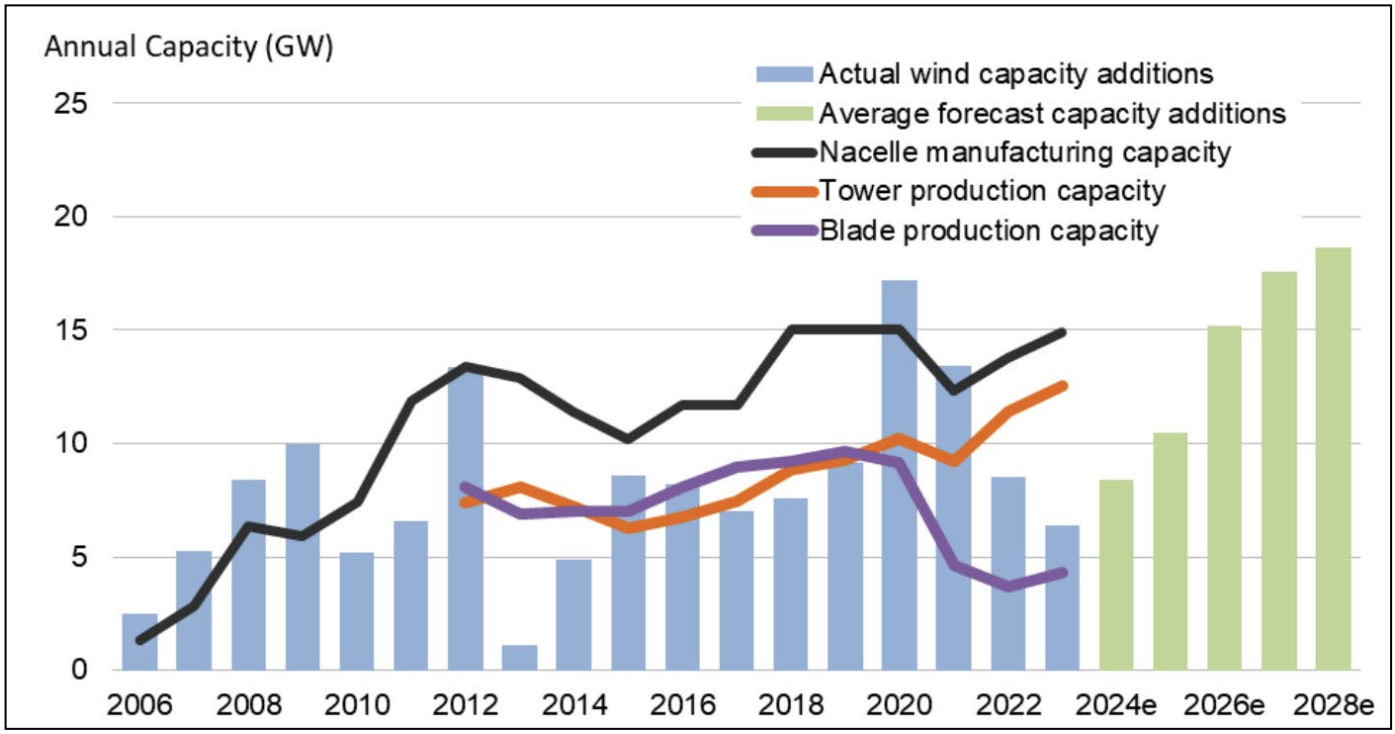


Figure B10: Domestic Wind Manufacturing Capabilities vs U.S. Wind Power Capacity Installations (source: ACP, Independent analyst projects, Berkeley National Lab)

Imports

Despite the scale of the domestic wind industry supply chain, the U.S. wind power industry remains dependent on imports. Imports of wind-related equipment (tracked through trade codes) have fallen from a recent high of $5.5 billion in 2020 to $1.7 billion in 2023; the lowest level since 2013 (Figure B11).

Imports in recent years have largely mirrored annual capacity additions, with import value per gigawatt ($/GW) holding stable since 2021. From 2014 through 2023, imports of wind-related turbine equipment followed U.S. wind installation trends, bouncing back from the low of 2013 and then with a marked decline from 2020 through 2023. This suggests, if new procurement contracts are established, imports would also increase accordingly.

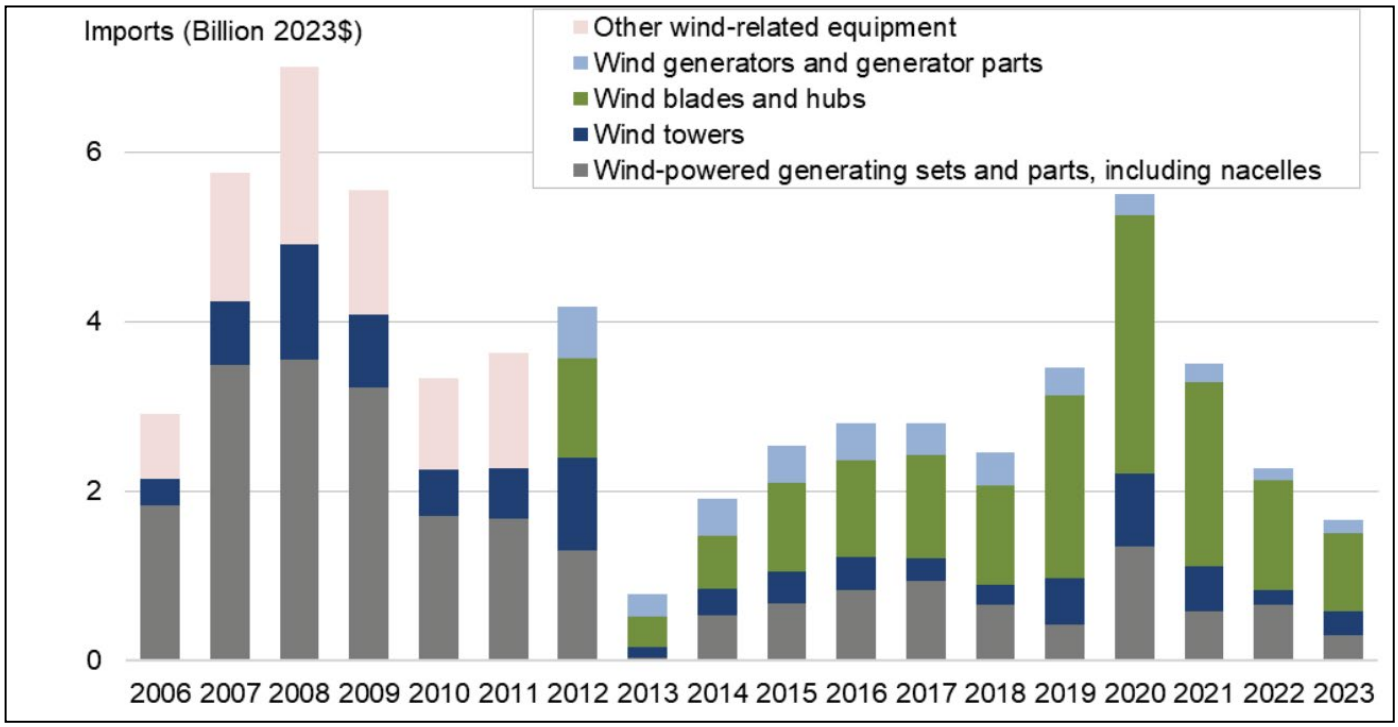


Figure B11: Declining Import of Wind-Related Equipment Tracked Using Trade Codes (source: Berkeley National Lab analysis of data from USA Trade Online)

Note: wind-related trade codes and definitions are not consistent over the full period.

Supply Chain Issues

The 2022 Wind Energy Supply Chain Deep Dive Assessment by the U.S. Department of Energy (USDOE)[28] reveals several vulnerabilities, some of which can be opportunities for Benicia. These vulnerabilities manifest differently for offshore and land-based wind, given their current domestic supply chain status (i.e. absent or nascent for offshore wind, significant and mature for land-based wind), but several common themes emerge from the report regarding the most crucial supply chain vulnerabilities for the U.S.

- Uncertainty in the wind energy project pipeline limits incentives for new supply chain investments; in fact, near-term domestic manufacturing capacity could decline due to projected decreases in annual installations in 2022 and 2023. This trend continues with 2024 being the lowest year for wind capacity addition, according to the American Clean Power Association.[29]
- Low labor costs from overseas competitors threaten competitiveness of domestic suppliers, especially for labor-intensive operations such as blade manufacturing.
- Logistics networks for land-based wind turbine components are increasingly strained due to the increasing size of components.
- Offshore wind component logistics require specialized infrastructure, particularly for ports and vessels, that do not yet exist in the United States. The operation of foreign-flagged vessels for the installation of offshore wind turbines in domestic waters is limited by the Jones Act.[30]
- Collaboration with the private sector can accelerate wind component manufacturing opportunities for ports and support the redevelopment of existing ports —this is where Benicia has an opportunity compared to land-based sites. When OSW procurement picks up in California, the OEMs would prefer to set up facilities at or near ports.

[28] EERE Technical Report USDOE
[29] US Wind Energy Monitor 2024
[30] https://www.cbp.gov/sites/default/files/2024-12/Jones%20Act%20ICP_Complete_04DEC24.pdf

- Depending on offshore wind procurement levels, Benicia is well-positioned to import subcomponents and perform on-site nacelle assembly at the port, serving Wind Energy Areas along the West Coast.

Department of Energy Strategies

The USDOE[31] suggests policy recommendations to meaningfully address the industry challenges highlighted above. While these factors do not necessarily give Port of Benicia a competitive advantage relative to other ports in California, tracking these in an uncertain policy landscape is critical to identify opportunities. USDOE recommendations include:

- Enact legislation to provide tax incentives to support domestic clean energy manufacturing and deployment, including incentives for clean energy production, building new manufacturing facilities, and for the ongoing operation of those facilities
- Prioritize financing of offshore wind ports and vessels through Department of Transportation Maritime Administration programs and the DOE Loan Programs Office
- In partnership with the Department of Transportation and state and local governments, fund transportation improvements and standardize transport permitting requirements for large wind components that cross jurisdictional boundaries
- Engage the government and the private sector to expand research, development, and demonstration of technologies to enhance U.S. wind supply chain competitiveness and reduce logistical requirements

Challenges and Opportunities for Imports

Current blades, towers, and nacelles are becoming too large to efficiently transport over existing surface transportation networks, and moving components is further challenged by varied state and local transport permit requirements. Unless there is a land-based wind energy site close to Benicia (that is further away from existing manufacturing sites) serving onshore wind from the Port of Benicia would be difficult.

Large castings, critical to wind turbine hubs and nacelle internals, are not manufactured in the U.S. due to the environmental impact of the foundries that produce them.[32] Additionally, there is a lack of a domestic supply chain capacity for a few components and materials (specifically semiconductors, rare earth elements, carbon fiber, metal castings, and specific nacelle components), necessary for offshore wind.[33] These components need to be imported.

Port of Benicia may fit into the supply chain, importing these subcomponents and assembling them at the port. The primary suppliers of wind-powered generating sets and parts, including nacelles, were India (26 percent), Denmark (15 percent), Germany (15 percent), Brazil (10 percent), and Spain (eight percent) in 2020.[34] These assembled elements can serve the offshore wind industry.

California has long been interested in offshore wind, with multiple agencies expediting reviews and planning. IN 2024, voters also approved a climate bond that included $475 million for offshore wind-related development at California ports, and the state's grid operator, CAISO approved a $4.6 billion plan.[35] last year,to build infrastructure to carry offshore wind power to the grid.[36]

Manufacturing/Fabrication Port Components

Wind energy requires an array of structures working in parallel onshore and offshore. A key part of this interaction is the manufacturing of wind turbines and subsequent foundational components. Of the three types of ports required to support floating offshore wind energy development, the Port of Benicia has been determined to best serve as a Manufacturing/Fabrication (MF) site.**Error! Bookmark not defined.**

[31] Wind%20Supply%20Chain%20Fact%20Sheet%20Final[1].pdf
[32] EERE Technical Report Template
[33] EERE Technical Report Template
[34] Land-Based Wind Market Report: 2021 Edition
[35] draft_2023-2024_transmissionplan.pdf
[36] Trump's order will not halt CA's offshore wind leases—CalMatters

MF sites receive raw materials through road, rail, or waterborne transport and produce large components for the offshore wind supply chain, which are then exported by vessel or barge. These sites generally require less space than S&I sites[37] and can operate in locations with air draft restrictions since components like tower sections, nacelles, blades, and floating foundations can be transported horizontally. Thus, ports situated behind bridges, such as those in the Bay Area, are suitable candidates for offshore wind development as MF sites.[38]

Five different MF sites were considered for development in the AB 525 Port Readiness Plan:

- Blade MF Sites

  A port site that receives raw materials and manufactures blades

- Tower MF Sites

  A port site that receives raw materials and manufactures tower sections.

- Nacelle Assembly Sites

  A port site that receives furnished parts of the nacelle and assembles the completed nacelle

- Foundation Subcomponent MF Sites

  A port site that receives raw materials and manufactures subcomponents of the floating foundation systems (tubes, columns, etc.).

- Foundation Assembly Sites

  A port site that receives furnished subcomponents of the floating foundation and assembles the full foundation system.

Due to their close proximity to major water bodies and the coast, port facilities are well-suited for the manufacturing and assembly of wind turbine components, offering advantages from both logistics and business perspectives. Components are manufactured in onshore ports and facilities, and then are towed out to sea using offshore wind-specific vessels, and connected using subsea (or array) cables to provide electricity to the offshore substation, which transmits the generated power onshore through high-voltage export cables.[39]

As Figure B12 illustrates, floating offshore wind turbines comprise large fundamental components, universal to all existing offshore wind technologies: blades, nacelles, towers. Floating platforms are the other primary component of turbines. These include tension leg (TLP), semi-submersible, and spar platforms. These platform technologies are newer, filling a need for foundations that reach greater ocean depths, akin to those on the Pacific Rim. The choice of foundation depends on factors like sea and seabed conditions, wind patterns, size of the turbine, and depth of the harbor.[40]

The development of floating offshore wind requires purpose-built, high-capacity port facilities. Likewise, the feasibility of on-site manufacturing depends on the port's infrastructure, including factors like available physical capacity, infrastructure conditions, specialized equipment, and workforce expertise. Drawing from contemporary research, this section of this modernization plan outlines the main components of wind turbines above and below water, and the general infrastructure needs associated with each component. Table B13 details the key physical port requirements for manufacturing each set of components.

[37] In the pipeline of floating offshore wind development, there are three roles a port can play: Staging and Integration (S&I), Manufacturing/Fabrication (MF), and Operations and Maintenance (O&M). These roles are presented chronologically to demonstrate the progression of turbine development.
[38] California Floating Offshore Wind Regional Ports Assessment, Bureau of Ocean Energy Management (BOEM)
[39] Floating Offshore Wind Manual, BW Research
[40] Floating Offshore Wind Manufacturing, Great Britain and Northern Ireland Department of International Trade

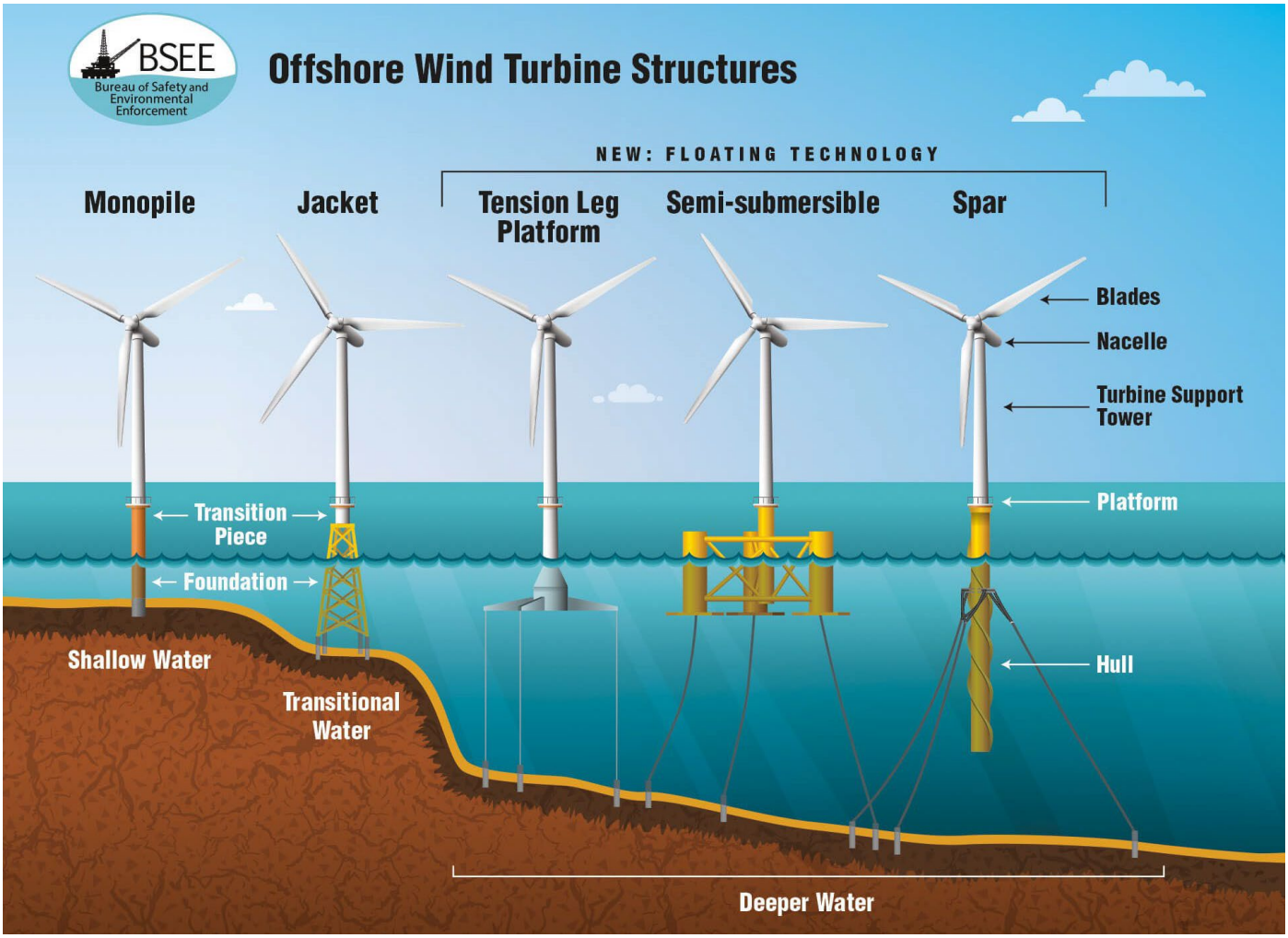


Figure B12: Offshore Wind Turbines: Components, Foundation Structures, and Water Depth Specifications (source: Floating Offshore Wind Manual, BW Research)

Table B13: Infrastructure Component Summary

	Above Water Components			Below Water Components		
	Blades	**Nacelles**	**Towers**	**Semi-submersible**	**Spar Buoy (Spar)**	**Tension Leg Platforms (TLP)**
Site specifications assumed in the AB 525 Port Readiness Plan						
Timing	Ready for use by 2030, 2032, and 2035.	Ready for use by 2030, 2032.	Ready for use by 2030, 2032.	Ready for use by 2030, 2032, and 2035.	Ready for use by 2030, 2032, and 2035.	Ready for use by 2030, 2032, and 2035.
Production Rate	Blade MF sites are assumed to have a production rate of 182 blades per year. Three blades are required for each turbine system.	Nacelle assembly sites receive components and assemble the nacelles at a rate of 275 nacelles per year. One nacelle is required for each turbine system.	Tower MF sites are assumed to have a production rate of 500 sections per year. Four tower sections are required for each turbine system.	MF sites are assumed to produce 350 subcomponents per year. Six subcomponents are assumed for each foundation	MF sites are assumed to produce 350 subcomponents per year. Six subcomponents are assumed for each foundation	MF sites are assumed to produce 350 subcomponents per year. Six subcomponents are assumed for each foundation
Site requirements for each component						
Total Area	100 acres minimum	25 acres minimum	50-100+ acres	75-80 acres minimum; with 20-40 acre fabrication yard	75-80 acres minimum; with 20-40 acre fabrication yard	75-80 acres minimum; with 20-40 acre fabrication yard
Navigable Width	200-400 ft.	Ability to allow for heavy-lift cargo vessels to travel, may be 1,000 ft. long & 400 ft. wide	150-200 ft.	328-443 ft.	197-226 ft.	296-443 ft.

	Above Water Components			Below Water Components		
	Blades	**Nacelles**	**Towers**	**Semi-submersible**	**Spar Buoy (Spar)**	**Tension Leg Platforms (TLP)**
Navigable Depth	Ability to accommodate heavy-lift cargo vessels, incl. bulk carrier vessel with 32 ft. draft	Ability to allow for heavy-lift cargo vessels to travel, may be 1,000 ft. long & 400 ft. wide	25-38 ft.	33-40 ft.	296 ft. in sheltered	33 ft. minimum
Draft at Berth	18 ft. minimum for deck barge vessel 32 ft. minimum for bulk carrier vessel	Ability to allow for heavy-lift cargo vessels to travel, 33-90 ft.	38 ft. minimum	38+ ft.	20-270 ft.	38+ ft.
Wharf Length	650 ft. minimum w/ minimum width of 120 ft. quayside	800 ft. minimum (heavy-lift wharf)	801 ft. minimum (heavy-lift wharf)	1,200 ft. minimum (heavy-lift wharf)	1,200 ft. minimum (heavy-lift wharf)	1,200 ft. minimum (heavy-lift wharf)
Number/ Size of Terminals or Berths	One terminal for manufacturing facility & shipping	One terminal for manufacturing facility & shipping	1 terminal for manufacturing facility & shipping w/ minimum 1 deep draft berth	1-2 deep draft berths	1-2 deep draft berths	1-2 deep draft berths
Size of Berth	Bulk Carrier: D 37ft. W 113ft. L 588 ft. Deck Barge: D 21ft. W 114ft. L 588 ft.	500 ft. minimum	650 ft. minimum of quayside length	470 ft. length minimum	470 ft. minimum	470 ft. length minimum
Wharf Loading	Wharf Loading: 4,000 - 6,000 psf	Wharf Loading: 4,000 - 6,000 psf	Wharf Loading: 6,600 psf minimum under crane	Wharf Loading: 6,000 psf minimum under crane	Wharf Loading: 6,000 psf minimum under crane	Wharf Loading: 6,000 psf minimum under crane
Yard Loading	Yard Loading: 4,000 - 6,000 psf	Yard Loading: 4,000 - 6,000 psf	Yard Loading: 2,000 - 3,000 psf	Yard Loading: 4,000 - 6,000 psf	Yard Loading: 4,000 - 6,000 psf	Yard Loading: 4,000 - 6,000 psf

	Above Water Components			Below Water Components		
	Blades	**Nacelles**	**Towers**	**Semi-submersible**	**Spar Buoy (Spar)**	**Tension Leg Platforms (TLP)**
Bearing Capacity	Bearing Capacity: 2,000 - 3,000 psf	Bearing Capacity: 2,000 - 3,000 psf	Bearing Capacity: 2,000 - 3,000 psf	Bearing Capacity: 7,000 psf minimum (approx. 10 tons per sq. meter)	Bearing Capacity: 7,000 psf minimum (approx. 10 tons per sq. meter)	Bearing Capacity: 7,000 psf minimum (approx. 10 tons per sq. meter)
Air Draft	200 ft. minimum clearance above water line	200 ft. minimum clearance above water line	200 ft. minimum clearance above water line*	650 ft. minimum clearance above water line	650 ft. minimum clearance above water line	650 ft. minimum clearance above water line
Storage Needs	Storage Space 14.8-17.3 acres for 240 blades	Frames and warehouse(s) to store completed components	Completed component storage on frames to elevate off ground	Wet Storage of approx. 1.9 square miles to store six 15 MW turbines#	Wet Storage of approx. 1.9 square miles to store six 15 MW turbines#	Wet Storage of approx. 1.9 square miles to store six 15 MW turbines#

** Towers tend to be transported horizontally to the S&I port or out to sea.*

 # Usual upper limit of turbines stored at one time. May vary according to deployment schedules and downtime risks.

Source: Floating Offshore Wind Manual, BW Research

Ports with adequate infrastructure and resources are capable of producing large or logistically challenging components on-site, including blades, nacelles, and towers. Additionally, these components consist of supporting subcomponents that can also be manufactured at port facilities. The following subsections offer additional context by detailing each primary wind turbine component and the existing port sites where they are currently manufactured.

Above-Water Components

- Blades

  Working like a wing of an airplane, blades are the turbine components that obtain the kinetic energy from wind. This component is extremely fragile and requires caution when handling. Given the blades' size, complexity, and material needs, this is the most important composite-based part of a wind turbine, and the highest cost component of turbines.[41] Many blade manufacturing processes exist, but the most common practice involves resin infusion, large molds, and consumable vacuum bags to create two full-length shells with an aerodynamic design. The shells are then glued around a central load-bearing spar or have another structural component to connect for proper load-bearing.

  - Logistics – road and rail access required to receive materials
  - Permitting – takes approximately one year
  - Construction – takes approximately 1.5-2 years (operations are assumed to start 2.5-3 years after the permitting process initiates)
  - Cargo – fiberglass and carbon fiber will need to be handled for these activities
  - Cranes – gantry cranes to lift and transfer blades onsite; vessel-based cranage to lift and transfer blades onto the vessel; and mobile cranage is preferred
  - Electricity – shore power connection

  Existing MF Ports or Facilities

  - *General Electric facility in Gaspé, Quebec, Canada*
  - *LM Wind Power facilities in Kolding, Denmark and Bergama, Turkey*
  - *Previously planned Siemens Gamesa facility at Port of Coeymans, New York*

- Nacelles

  Located atop the tower of the turbine, nacelles support rotation and energy generation. Nacelles are intricate components that necessitate a steady supply of steel and other composite components. Nacelle manufacturing sites typically require a large investment, given the breadth of subcomponents within each nacelle, and the materials to construct each one. The subcomponents include structural housing, gearboxes, rotor shaft, generators, transformers, and control systems (yaw, brake and cooling systems).

  - Logistics – road and rail access required
  - Permitting – takes approximately two years
  - Construction – takes approximately two years; can start midway through permitting which means operations are estimated to start three years after permitting process begins
  - Cargo – nacelles and subcomponents
  - Cranes – electric over-head travelling (EOHT) cranage (75-ton capacity), to move within fabrication facility; several 350-ton capacity mobile cranes for loadout activities; and crawler cranes
  - Electricity – shore power connection

  Existing MF Ports or Facilities

  - *GE Renewable Energy factory in Montoir-de-Bretagne, France*
  - *Siemens Gamesa facilities in Cuxhaven, Germany and Taichung, Taiwan*
  - *Planned Vestas facility in Szczecin, Poland*
  - *General Electric facility in Gaspé, Quebec, Canada*
  - *LM Wind Power facilities in Kolding, Denmark and Bergama, Turkey*
  - *Previously planned Siemens Gamesa facility at Port of Coeymans, New York*

[41] Materials for Wind Turbine Blades: An Overview, National Center for Biotechnology Information

- Towers

  Towers, typically standing around 400 feet tall and weighing over 800 tons, maintain a size and weight that leads to their manufacturing on-site at port facilities. Tower manufacturing sites are resource-intensive. They require intense labor, but they also need significant energy and materials (primarily steel) to manufacture. Towers elevate the turbine from the water's surface to provide access to the nacelle and other control systems used for maintenance. They also create height for the turbines to spin. Most towers resemble tapered cylinders that are grounded into the base platform and support the nacelle at the top. Each turbine has four tower pieces.[Error! Bookmark not defined.]

  - Logistics – road and rail access required
  - Permitting – takes approximately two years
  - Construction – takes approximately two years; operations are estimated to start 3-4 years after permitting process begins
  - Cargo – steel, fiberglass, iron and copper
  - Cranes – 500-1,000-ton capacity
  - Electricity – shore power connection
  - Additional – 75 feet of clearance between vessels at berth

  Existing MF Ports or Facilities

  - *Port of Bilbao in Bilbao, Spain*
  - *Planned facility at Port of Albany, New York, U.S.*

Below-Water Components

When developing floating offshore wind, one of the most complex decisions is which type of foundation or platform to use for the turbine. There is a breadth of platform technologies, including the three outlined below. Turbine platforms can often be manufactured or assembled at port facilities. However, the extent possible depends on the platform type and port capabilities.

Additional below water components include anchors, mooring lines, array cables and export cables. These components are generally not manufactured at port facilities as numerous existing, onshore enterprises manufacture these materials. As well, some components like mooring lines require several raw materials to manufacture. These other components can be manufactured or fabricated at several sites onshore, without the need to be physically on-site. However, some components like array and export cables are stored at staging and integration ports.

- Semi-Submersible Platform

  Semi-submersible floating platforms are the most probable technology to be used on the U.S. West Coast due to the deep draft conditions of the Pacific ocean. These platforms tend to be lower cost than the other types of floating platforms. They consist of multiple columns and pontoons for stability/buoyancy, and often require steel, concrete, and sometimes a combination of both materials (which could be influenced by supply chain bottlenecks). Turbines are typically installed on these platforms onshore and then towed out to sea.[Error! Bookmark not defined.]

  - Logistics – road and rail access required
  - Permitting – takes approximately 1-2 years
  - Construction – takes approximately two years; operations are estimated to start 3-4 years after permitting process begins
  - Cargo – steel and concrete
  - Cranes – 500-1,000(+)-ton capabilities and crawler cranes
  - Electricity – shore power connection

  Existing MF Ports or Facilities

  - *Pemamek Ltd. in Houston, Texas*
  - *Fred. Olsen in Oslo Norway*
  - *Principle Power in Portugal and Scotland*

- Spar Platform

  Spar platforms consist of a vertically floating cylinder, suitable for deep water depths. Their height makes them challenging to transport and install, which makes ports an ideal site to manufacture on and tow from. Like semi-submersible platforms, these are also made of steel, concrete, or a combination of both materials.[Error! Bookmark not defined.]

  - Logistics – road and rail access required
  - Permitting – takes approximately 1-2 years
  - Construction – takes approximately two years; operations are estimated to start 3-4 years after permitting process begins
  - Cargo – steel and concrete
  - Cranes – 500-1,000(+)-ton capabilities and crawler cranes
  - Electricity – shore power connection

  Existing MF Ports or Facilities

  - *Pemamek Ltd. in Houston, Texas*
  - *Siemens Gamesa's TetraSpar in Norway*

- Tension Leg Platform (TLP)

  By industry standards, Tension Leg Platforms (TLP) are considered less technologically ready than the prior two platform types. These platforms are comprised of steel, requiring a substantial supply of this material for the manufacturing process. Like semi-submersible platforms, the turbines can be installed on the TLP onshore, then towed out to sea. Therefore, the port requirements for both these platform types are similar.[Error! Bookmark not defined.]

  - Logistics – road access required and rail access preferred
  - Permitting – takes approximately 1-2 years
  - Construction – takes approximately two years; operations are estimated to start 3-4 years after permitting process begins
  - Cargo – steel
  - Cranes – 500-1,000(+)-ton capabilities and crawler cranes
  - Electricity – shore power connection

  Existing MF Ports or Facilities

  - *Pemamek Ltd. in Houston, Texas*
  - *PelaStar in partnership with General Electric*

Existing Investments

As described above, ports with the necessary infrastructure and capacity can handle the on-site production of major wind turbine components, including blades, nacelles, and towers. These facilities can also support the manufacturing of associated subcomponents, enhancing supply chain efficiency and reducing transportation challenges.

The USDOE's 2022 Supply Chain Deep Dive Assessment outlines the existing domestic MF investments for offshore wind (Table B14).[42] The following section details case studies of various efforts on the U.S. East Coast with varying degrees of success. It is important to note that the state of the practice is continuously evolving, with ports and agencies responding to events as they occur. Consequently, the most current information may not always be readily available. This analysis relied heavily on port sources as well as online news sources.

[42] Department of Energy Supply Chain Deep Dive Assessment, 2022

Table B14: U.S. Offshore Wind Supply Chain Investments, 2022

Component	Location	Investors	Investment	Status
Blades	Portsmouth Marine Terminal (VA)	Siemens Gamesa	$200 million	Announced
Nacelles (assembly only)	New Jersey Wind Port (NJ)	Vestas, Atlantic Shores	Not announced	Announced
	Paulsboro Marine Terminal (NJ)	GE, Orsted	Not announced	Announced
Towers	Port of Albany (NY)	Marmen Welcon, Equinor	$350 million	Announced
Monopiles	Paulsboro Marine Terminal (NJ)	EEW, Orsted	$250 million	Under construction
	Sparrows Point (MD)	US Wind	$150 million	Announced
Transition pieces	Port of Albany (NY)	Marmen Welcon, Smulders	$60 million	Announced
Gravity-based foundations	Port of Coeymans (NY)	Cobra, Esteyco, Equinor	Not announced	Announced
Export cables	Nexans high voltage cable facility (SC)	Nexans	$200 million	Operational
Array cables	Kerite (CT)	Kerite, Marmon Group, Vineyard Wind	$4 million	Operational
	Tradepoint Atlantic (MD)	Eversource, Orsted	$150 million	Announced

Source: USDOE Supply Chain Deep Dive Assessment, 2022

Port of New Bedford, Massachusetts

The Port of New Bedford has become a significant asset as the offshore wind industry has begun to grow in the U.S. Both New Bedford and Massachusetts broadly have invested in infrastructure development for the offshore wind industry within the past several years. In 2010, the Massachusetts Clean Energy Center (CEC) completed its Port and Infrastructure Analysis for Offshore Wind Energy Development[43]; a similar report was prepared by the BOEM for California in 2023. The report found that the Port of New Bedford has the greatest potential to support the assembly and installation (i.e. S&I) of offshore wind components. Subsequently, in 2015, the Massachusetts CEC completed a two-year construction of the Marine Commerce Terminal (Figure B13), a 29-acre facility built specifically for the construction, assembly, and deployment of offshore wind turbines. The CEC funded the $133 million project and leases it to turbine manufacturers.[44] $66 million was spent on significant dredging and wharf improvements.[45] Importantly, the specifications of the terminal were designed to cater to the offshore wind industry:

- 29-acre facility with a 1,200-foot quayside
- 21 acres of the terminal site has a 4,100 pounds per square foot capacity and concentrated loads of up to 20,485 pounds per square foot (100 metric tons per square meter)
- 300-foot-wide navigational channel dredged to -30 feet MLLW
- Ship-to-shore power outlets along the bulkhead
- Near rail and interstate highway connections
- Expandable electrical system, including a 3,000 amp, 480/277V, 3 phase, 4 wire system

The terminal is capable of supporting a 1,350 metric ton crane lifting a 500 metric ton load at a 30-meter radius along the entire 1,000-foot (305-meter) new bulkhead and throughout the more than 21-acre main facility.

[43] Port and Infrastructure Analysis for Offshore Wind Energy Development
[44] GZA. New Bedford Marine Commerce Terminal
[45] Cashman Weeks NB JV. New Bedford Marine Commerce Terminal



Figure B13: Aerial View of New Bedford Maritime Commerce Terminal Capacity Ratings (source: Massachusetts CEC. New Bedford Marine Commerce Terminal Brochure)

In 2016, Governor Charlie Baker signed the Act to Promote Energy Diversity, allowing for the procurement of up to 1,600 megawatts of offshore wind energy by 2027. In May 2018, the first winning bid was announced to Vineyard Wind for 800 MW of offshore wind energy; Vineyard Wind also signed an 18-month lease with the Marine Commerce Terminal in October 2018.[46]

It took three years since the port site was developed to handle offshore wind manufacturing and assembly before it was leased to an offshore wind firm. Additionally, the lease only occurred after a successful procurement contract was signed by the state. In this instance, the wind energy company waited with to sign a lease with the port for developing facilities, until the State of Massachusetts signed a procurement contract.

New Jersey Wind Port (New Jersey)

The New Jersey Economic Development Authority (NJEDA), an independent authority of the State of New Jersey, is developing the New Jersey Wind Port (NJWP) on behalf of the state. The NJWP was the nation's first greenfield wind port, designed, built, and operated exclusively for offshore wind marshalling and Tier 1 turbine component manufacturing. NJEDA secured $637.6 million in state funding for the project. Phase 1 of the project is estimated at $550 million.[47] The NJWP is being developed in phases (see Figure B14). Phase 1 construction began in 2021 and is comprised of:

[46] Port of New Bedford. Offshore Wind
[47] Att-12-NJWP-Parcel-Information.Prospectus.pdf

- An approximately 30-35-acre property and adjacent wharf infrastructure purpose-built for marshalling (i.e. wind turbine staging, final assembly, and transport) (Parcel A)
- A dredged access channel from the NJWP to the main Delaware River shipping channel, as well as berth pockets and a turning basin able to accommodate jack-up installation vessels and other turbine installation and delivery vessels
- Two inland Tier 1 turbine component manufacturing parcels (Parcels C and G), connected to the wharf via a heavy-haul road corridor purpose-built for moving components such as nacelles and towers
- An approximately 25-acre confined disposal facility (CDF) for dredge material management (Parcel E)
- An approximately four-acre property for general port administration and parking (Parcel D)
- On-site utility infrastructure and grid connections

Parcel A was completed in Q2 of 2024. The balance of Phase 1 (Parcels C, G, E and D) is currently targeted for completion by 2026.[48]

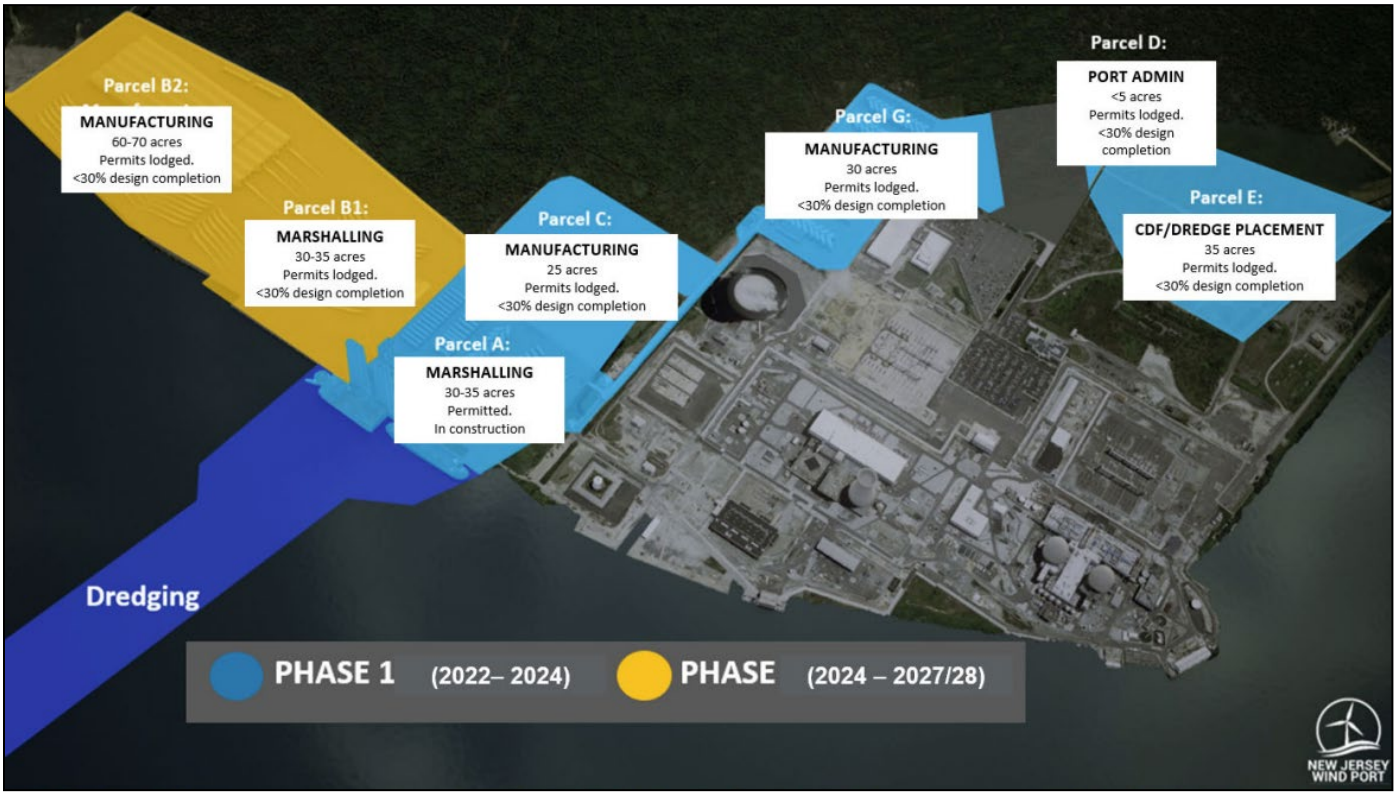


Figure B14: NJWP Development Phasing, Parcels and Current Status (source: New Jersey Wind Port Prospectus, Att-12-NJWP-Parcel-Information.Prospectus.pdf)

For manufacturing facilities at its site, NJEDA is interested in long-term lease commitments. While it mandates a 10-year minimum lease commitment, longer lease commitments are preferred. NJDEA has set a base rent floor of $230,000 per acre, expressed in 2024 U.S. dollars. “Base rent” refers to the lease price excluding costs such as utilities, property taxes, repair costs, and other expenses that are customarily passed through to an industrial tenant by a landlord under a triple net lease. The base rent amount assumes a fully developed parcel including wharf infrastructure, dredging, and ground-strengthened uplands necessary to support Tier 1 component manufacturing inbound/outbound use but excludes any manufacturing facility foundations or building/shell.

[48] Development—New Jersey Wind Port

The NJWP has set aside approximately 25 acres (Parcel C) for nacelle manufacturing, similar to the available area for Benicia. For this, it is developing the site to support at least 3000psf. The responsibility for dredging, wharf upgrades, and ground strengthening lies with the port. Cost estimates for these activities were not available. However, a rental rate of $230,000 per acre provides a rough estimate of the revenue. The actual facility construction and its recurring costs will be borne by the manufacturing business.

Ocean Wind and GE Vernova

In 2021, GE Vernova partnered with Ørsted, for the expansion of their Ocean Wind project at their offshore wind federal lease area off the U.S. East Coast, in New Jersey. This partnership won a Jersey Board of Public Utilities (NJBPU) procurement contract. As part of this contract, GE intended to expand its Paulsboro Monopile Manufacturing facility and establish a new nacelle manufacturing facility at the NJWP facility.[49] However, the new nacelle manufacturing project was canceled in May 2024, citing rising supply chain costs and delays.[50]

Efforts at NJWP offer an understanding of the average site area for nacelle assembly and expected rental income per acre from the land lease. However, despite significant state investment in developing the port, and state procurement contracts for offshore wind being issued, supply chain issues have delayed the development of any nacelle facility at the port.

New York OSW Efforts

In early 2023, GE Vernova announced that it had submitted a plan to construct two new manufacturing facilities in New York, if it won a sufficient volume of orders from customers in the state's ongoing solicitation for up to 4.6 GW of offshore wind.

GE Vernova proposed building a state-of-the-art facility to build nacelles. This facility would create approximately 220 direct jobs, with approximately 35 percent of those jobs coming from disadvantaged communities. Additionally, almost 500 indirect jobs and approximately 500 construction jobs would be created, along with millions of dollars of related economic benefits.[51]

In late 2023, the New York State Energy Research and Development Authority (NYSERDA) provisionally allocated $300 million of grant funding to GE Vernova and LM Wind Power for nacelle and blade manufacturing. However, subsequent revisions to the projects, including GE Vernova's decision to alter its offshore wind turbine product from the initially proposed 18 MW to a 16.5 MW platform, resulted in difficulties in finalizing agreements between provisional awardees and their partners. Consequently, no final awards were granted.[52]

Port of Coeymans

Also in the New York state, and as part of the same effort, Siemens Gamesa put forth plans to build a major manufacturing facility for offshore wind turbine nacelles at the Port of Coeymans, New York, if wind farms comprising its turbines were selected by the state in the third offshore wind solicitation.[53] The company notes that the plant could create up to 420 direct jobs, support a significant rise in indirect jobs, and represent an investment of $500 million in the region. The company has secured a site at the Port of Coeymans and has already developed advanced engineering plans and 3D visualizations. From the visualizations and satellite images of the port (Figures B15, B16), the nacelle manufacturing area appears to be approximately 20 acres with one berth.

[49] Ocean Wind 2
[50] Orsted, New Jersey reach settlement over canceled offshore wind farms | Reuters
[51] GE proposes building two new offshore wind facilities in New York | GE Vernova News
[52] NYSERDA concludes New York's third offshore wind solicitation without final awards | 4C Offshore News
[53] Siemens Gamesa Plans Producing 'Made in USA' Offshore Wind Turbine Nacelles in New York | Offshore Wind



Figure B15: Siemens' Proposed Site for Nacelle Assembly at the Port Of Coeymans (source: Google Satellite Imagery)



Figure B16: Illustration of Siemens Nacelle Assembly Plant at the Port Of Coeymans (source: Google Siemens Gamesa)

According to multiple sources, as of February 2025 the Port of Coeymans was actively engaged in offshore wind manufacturing for advanced foundation components (external working platforms, anode cages, monopile doors, and internal working platforms) for Ørsted's Sunrise Wind project, through electrical and utility contractor Riggs Distler.[54] The port is reportedly constructing two platforms per week, with half allocated to Sunrise Wind in Long Island, New York. Some sources also mention blade and nacelle production at the port, though this could not be independently verified.[55] As well, Coeymans is reported be handling steel for Sunrise Wind and plans to supply aggregate stone for Empire Wind, another Scandinavian-backed project off Long Island.

While the port stated it is closely monitoring changes in federal policy, its operations and plans remain unchanged.[56] Like other ports, Coeymans faces uncertainties related to project cancellations, GE Vernova turbine redesigns, and rising costs, which may explain the inconsistent reporting. Nonetheless, GE Vernova has stated its continued commitment to Coeymans as a potential site for future construction needs.

The Port of Coeymans unveiled its plans to develop serviceable land specifically for offshore wind clients such as GE and Siemens (Figure B17). Plans include three parcels between 20-30 acres each for a total area of 80 acres.[57]

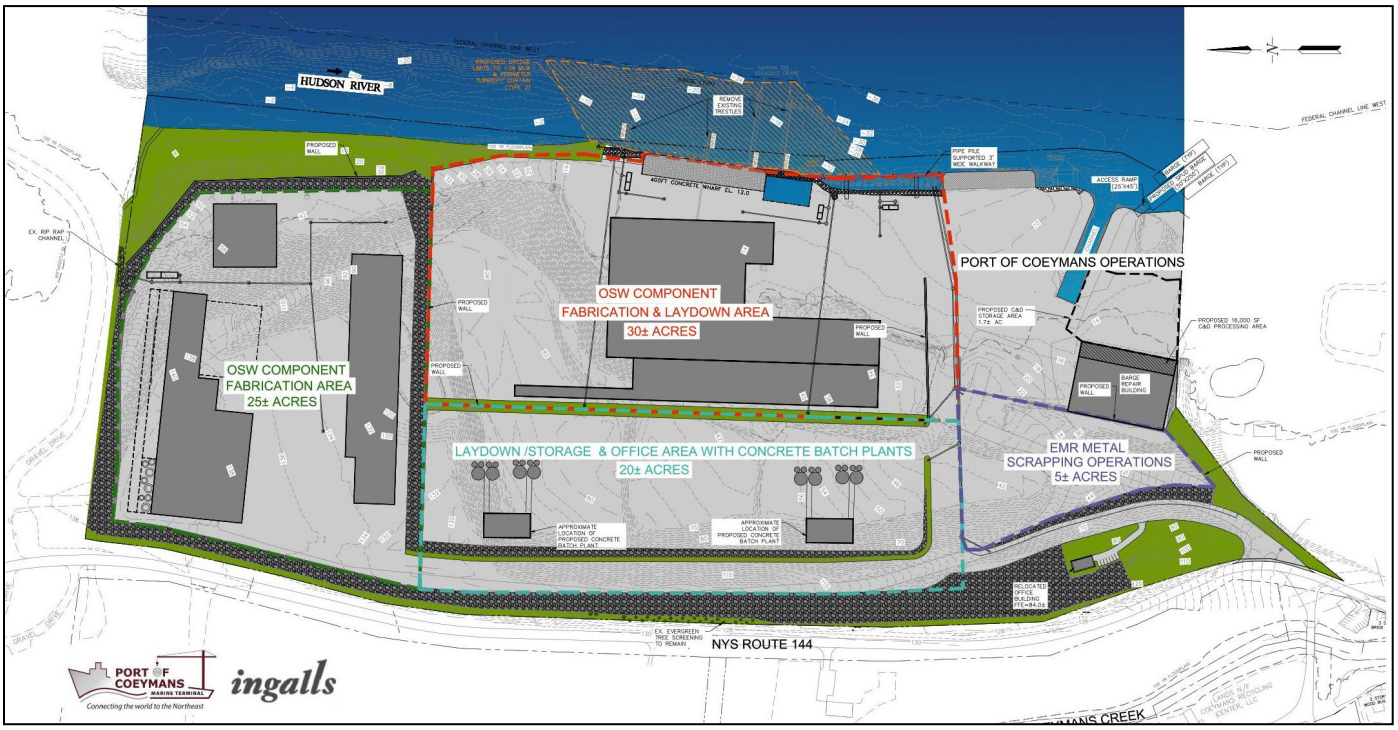


Figure B17: Port of Coeymans Offshore Wind Infrastructure (POWI) Plan (source: Port of Coeymans Offshore Wind Infrastructure (POWI) project - Carver Companies)

Port of Albany

Similar to the Port of Coeymans, the Port of Albany – located nine miles up the Hudson River – has also been significantly impacted by evolving federal and state policies. Despite significant investment (over $170 million in upgrades in 2021) to support a planned tower factory, the facility has since languished due to soaring costs.

The Port of Albany has secured substantial support through several rounds of federal and state discretionary funding, along with private investment, making it the largest fully permitted site for offshore wind tower manufacturing in the Northeast. In 2018, the port expanded by acquiring over 80 acres—an increase of 25 percent in land area—positioning itself for industrial growth. In 2021, it was selected through NYSERDA's Round 2 Solicitation to host the nation's first offshore wind tower manufacturing supply chain facility, seen in Figure B18.[58]

[54] WAMC Northeast Public Radio (September 2024) *At Port of Coeymans, offshore wind industry work is booming*
[55] Times Union (April 2024) *New York offshore wind scrapped, along with promise of local jobs*
[56] Reuters (February 2025) *Focus: Trump hostility to US offshore wind reverberates through supply chain*
[57] Carver Companies. Port of Coeymans Offshore Wind Infrastructure (POWI)
[58] Port of Albany. https://www.portofalbany.us/infrastructure-investment



Figure B18: Port of Albany Proposed Wind Manufacturing Site (source: Maher, M. (December 2022). Port of Albany gets permit for wind manufacturing plant)

The proposed 626,000-square-foot facility, in partnership with Marmen and Welcon, was designed to produce up to 150 towers annually[59], with transportation planned via barge down the Hudson River to the South Brooklyn Marine Terminal (SBMT for assembly and deployment). At SBMT, staging of the turbine components was planned to take place before transport offshore to Equinor's Empire Wind lease area for installation.[60]

Although the Port of Albany site is fully permitted.[61] (i.e., local, state, and federal permits in hand), the project is currently at a standstill. Due to shifting market conditions and supply chain constraints, stakeholders are now considering alternative uses for the site.

Key Takeaways Related to Port of Benicia's Role in Supporting Wind Energy

Based on publicly available existing documentation and research conducted by the GHD team as part of this Modernization plan, the following inferences are relevant to Benicia in the context of California's wind energy development goals.

- Benicia is best suited to serve as a Manufacturing/Fabrication (MF) site in support of OSW.
- Given its long distance from the two designated wind energy areas – or WEAs – relative to other ports, the Port of Benicia is not well suited to serve as an O&M port. Additionally, due to a smaller developable footprint (approximately 20 acres) compared to other larger ports (40–80 acres) and its vertical clearance restrictions as dictated by the Carquinez Bridge (140 feet), Benicia is not suitable for S&I activity.

[59] Advance Albany County. *Offshore Wind Facilities at Ports of Albany, Coeymans to Support over 13,000 Jobs, and Generate Billions in Economic Impact*
[60] Equinor. (June 2024) *Groundbreaking at South Brooklyn Marine Terminal to transform port into NYC offshore wind hub*
[61] All documents related to permitting, approvals, environmental reports can be found on the Port of Albany's project site.

- The Port of Benicia only has sufficient available land to manufacture smaller wind turbine components, such as nacelles, electrical cables or mooring lines. From a demand-supply perspective, based on available data for nacelles, domestic manufacturing has kept pace with installations and is forecast to remain the same based on existing procurement contracts. Thus, unless new procurement contracts are set up for sites near Benicia, there is a very low incentive for manufacturers to set up a new manufacturing facility at Benicia for either OSW or onshore (landside) wind turbines.
- However, when OSW procurement picks up there could be a role for Benicia in the supply chain. Continuing with the example of nacelles, many of the subcomponents are imported, primarily from Asia, and assembled by OEMs at U.S. facilities across the country. There are no Tier 1 OEM manufacturing facilities in California. A nacelle assembly facility on the California coast would be advantageous once OSW procurement begins on the West Coast.
- New offshore wind manufacturing plants are set up based on successful wind power procurement contracts, as those contracts determine the specifications of the manufactured product. These contracts are usually between the states and the firms that have licenses to develop the WEAs. These contracts typically also outline the manufacturing firm and the specifications of wind turbines.
- Ports are usually responsible for providing a fully developed parcel, including wharf infrastructure, dredging, and ground-strengthened (3,000-6,000 psf) upland areas necessary to support Tier 1 component manufacturing. M/F manufacturing plant proposals typically allocate 20-30 acres. Benicia would need to partner with one of the three OEMs (GE Vernova, Vestas, or Siemens Gamesa) that have domestic manufacturing to consider the port as a possible location to develop a nacelle manufacturing facility.
- OSW infrastructure currently does not exist in California. However, there is an ambitious target set forth by the state, and multiple studies have been conducted. State support is critical, and agencies similar to the Clean Energy Center in Massachusetts, NYSEDRA, or NJEDA are needed to facilitate funding of offshore wind infrastructure and recommend locations to develop manufacturing facilities. These agencies can either provide grants to OEMs to develop ports or have public development agencies that fund port development designed for wind turbine manufacturing and staging. Benicia can also partner with similar agencies in California that plan to fund offshore wind.
- Of the four key supply chain issues identified by the federal government, the Port of Benicia can only address location. But demand, international competition, and the development of other supply chain elements are still uncertain. California policies and federal incentives are needed to address the demand and supply chain development, and remove the current uncertainty.
- High-level cost estimates for infrastructure development are similar across the assessed ports. The infrastructure upgrade costs for most ports in California are between $290-$325 million. Port of Benicia is neither at a specific cost advantage nor disadvantage.
- Currently the only other ports with OSW infrastructure development underway are planning to fill an S&I function to serve the immediate needs of the OSW supply chain. No port in California has detailed plans for MF site development.
- The Port of Benicia is among the least environmentally impactful California ports for MF activity. Other ports that were classified as least impactful are the Ports of San Francisco and the Ports of Los Angeles and Long Beach. Since the two larger ports (Port of Los Angeles, Port of Long Beach) are both suitable S&I sites, they may or may not choose to integrate and co-locate component manufacturing/fabrication into their OSW facility planning.
- If Benicia is to develop as an MF port, permitting can take 4-8 years, and as per BOEM reports, demand for MF sites will begin from 2030 and 2032. In terms of market timeline, Port of Benicia is at a suitable stage to play a role in OSW supply chain as an MF port when demand for such facilities will be realized post-2032.

- Benicia also has existing ro-ro capability built into the wharf and yard which can allow for a range of fabrication and assembly needs. While significant improvements to this infrastructure are required, having existing assets and an operator who is familiar with ro-ro and heavy-lift break-bulk cargo could reduce costs as compared to other ports that do not have any existing ro-ro facilities or operations.
- It is important to note that AMPORTS, as the landside property owner, would be the signing party in any land related agreements to set up manufacturing facilities at the Port of Benicia. They could also be potentially responsible for initial site development work. Thus, any manufacturing facility development at the port would require close coordination and complete buy-in between the OEMs, AMPORTS and the City from early in the process.

Conclusion

California voters approved Proposition 4, also known as the Climate Bond, which allocates $475 million for port infrastructure projects supporting offshore wind development.[62] This funding aligns with the California Public Utilities Commission's recently established target to procure up to 7.6 gigawatts (GW) of offshore wind energy by 2035.

To achieve this ambitious goal, a coordinated multiport strategy will be essential. Estimates suggest that supporting offshore wind development over the next decade or more could require the utilization of over 16 large ports and ten smaller port sites. This substantial demand will only intensify as multiple OSW sites become operational. However, the Port of Benicia's potential role as an MF site is not considered an immediate necessity for the industry. Unlike S&I and O&M sites, which are critical for offshore wind logistics, MF activities may rely on imported components and/or be co-located at S&I ports. Consequently, the anticipated demand for manufacturing facilities in 2030 and 2032 could be deferred or never materialize.

Additionally, other critical supply chain components may face delays, potentially impacting the project pipeline. A particularly pressing concern is the limited availability of deployment vessels, which poses a significant challenge and risk to the successful implementation of domestic OSW projects. The U.S. manufacturing sector faces several challenges, including:

- Policy Uncertainty

  Political and economic uncertainties have led to a slowdown in clean energy manufacturing momentum.
- Supply Chain Constraints

  Global competition for turbine components, including nacelles, has intensified, impacting U.S. projects.
- Project Delays

  Several OSW projects have faced delays or cancellations due to rising costs and supply chain issues.

Currently, no dedicated offshore wind manufacturing facilities have been proposed on the U.S. West Coast, and as of April 2025, the U.S. does not yet have any ports actively manufacturing nacelles for offshore wind turbines. Many ports today are currently operating as staging and pre-assembly (i.e. S&I) ports. To date, the Port of Humboldt remains the only West Coast port to secure federal funding in support of offshore wind.

Despite the absence of nacelle manufacturing, several ports are investing in the infrastructure needed to support nacelle assembly and related operations. Port of Benicia can pursue similar funding opportunities through programs like the Port and Intermodal Development Program (PIDP) or Proposition 4, which could finance further detailed studies and planning efforts. Governor Newsom's proposed 2025-2026 budget for California includes a multi-year spending plan to implement Proposition 4, with appropriations totaling $2.7 billion in the 2025-2026 fiscal year. This plan outlines funding allocations for various climate resilience projects, including port infrastructure related to offshore wind development. Initial disbursements will be dependent on the final budget approved by the State Legislature.[63]

[62] California Legislative Analyst's Office, Proposition 4 Ballot
[63] California Legislative Analyst's Office, Proposition 4 Spending Plan

Planning for the development of offshore wind involves balancing numerous factors, including environmental, cultural, socioeconomic, regulatory, and economic considerations. Despite successful deployment in Europe and Asia, the offshore wind industry is still in nascency, particularly in the U.S. Yet, the efforts completed to date are crucial for establishing a domestic supply chain and reducing reliance on international manufacturers.

While the market is still in its early stages, California has a rich history of adopting and running with innovation. The state is making strides, focusing on key areas like infrastructure development, including at ports, undertaking legislative efforts to identify federal, state, and local funding sources along with private investment, ensuring that port facilities are adequately prepared to support development. The promise of renewable energy generation brings more than just security to the state, it brings the potential for economic opportunity and global competitiveness to the Port of Benicia.

Appendix C: 2020 City of Benicia Transportation Fee Program Improvements

Intersection Improvements

The following intersection improvements were identified as necessary to maintain acceptable LOS under Year 2040 (future) conditions.

Rose Drive and Columbus Parkway

- Modify traffic signal to allow eastbound right turns to overlap with northbound left turns and to accommodate revised geometrics for westbound Columbus Drive.

Hastings Drive and Southampton Road

- Install traffic signal.

West 7th Street and I-780 WB Ramps

- Provide westbound left turn pocket.

East 2nd Street and Military East

- Convert the westbound left/thru to a dedicated westbound left turn pocket, add a westbound thru pocket and convert the westbound right lane to a thru/right lane.
- Convert the southbound left/thru turn pocket to a left only turn pocket and the southbound right turn lane to a thru/right lane.
- Convert the eastbound thru lane to an additional left turn lane and convert the eastbound right turn lane to a thru/right lane.
- Modify traffic signal to a protected eight phase signal with a southbound right turn overlap phase.

East 5th Street and I-780 WB Ramps

- Signalize intersection and widen westbound approach to accommodate a dedicated left turn pocket.

East 5th Street and I-780 EB Ramps/East O Street

- Remove access to O Street.
- Convert intersection to a signalized intersection.
- Additionally, the northbound approach is restriped to have a thru lane and a right turn pocket of 75 feet.

West 7th Street and Military West

- Install modern roundabout and reconfigure side streets

Southampton Road and Chelsea Hills Drive/Shopping Center Driveway

- Convert the southbound right turn pocket to a thru /right pocket
- Convert the northbound right turn pocket to a thru /right pocket
- Add an additional southbound receiving lane
- Add an additional northbound receiving lane.

Lake Herman Road and East 2nd Street/Lopes Road

- Install signal

- Widen/restripe northbound approach to a left turn pocket, a thru/right lane, and a right turn lane.
- Widen/restripe southbound approach to a left turn pocket and a thru/right lane.
- Widen/restripe eastbound approach to a left turn pocket, a thru lane, and a thru/right turn lane.
- Widen/restripe westbound approach to two left turn pockets and a thru/right lane.

Lake Herman Road and I-680 SB Ramps

- Install signal
- Widen/restripe southbound approach to a left/thru lane and a right turn pocket
- Widen/restripe westbound approach to a left/thru lane and a thru lane
- Widen/restripe eastbound approach to a thru lane and a thru/right lane

Lake Herman Road and I-680 NB Ramps

- Install signal
- Widen/restripe northbound approach to a left turn pocket and a thru/right lane
- Widen/restripe eastbound approach to a left turn pocket, a thru lane, and a right turn pocket.
- Widen/restripe westbound approach to a left turn pocket, a thru lane, and a thru/right pocket.

Industrial Way and Park Road and Industrial Way & I-680 SB Off Ramp

- Install modern roundabout, combining both intersections; or,
- Install signalized interchange improvement with coordinated signals

Bayshore Road/Refinery Driveway and Park Road

- Install modern roundabout; or,
- Install traffic signal with adequate turn pockets and queue storage

Bayshore Road and I-680 SB On Ramp

- Add an eastbound right turn pocket
- Add a westbound left turn pocket.

Bayshore Road and I-680 NB Off Ramp

- Install traffic signal.

East 2nd Street and I-780 WB Ramps/East S Street

- Install modern roundabout; or,
- Install traffic signal with turn restrictions on S Street

East 2nd Street and Rose Drive

- Widen/restripe southbound approach to two thru lanes and a right turn pocket
- Widen/restripe eastbound approach to add a right turn pocket

Southampton Road and Military West

- Update signal timing to add an overlap phase to the westbound right turn.

Street Segment Improvements

The following street segment improvements have been identified as necessary to support further development in the City:

Industrial Way (East 2nd Street to I-680 NB On-Ramp)

- Widen Industrial Way to a three-lane cross section, providing left turn access where necessary at major driveways along this roadway segment.

Military West (West 3rd Street to West 4th Street)

- Restripe existing shoulder and stripe a two-way left turn lane from W. Third Street to about 450 west of W. Third Street for improved access to adjacent development.

Columbus Parkway (Rose Drive to I-780 WB Off-Ramp)

- Widen Columbus Parkway at Rose Drive to accommodate a second westbound through lane.
- Extend culvert at creek to accommodate widening and relocate electrical vaults.

Multimodal Projects

Unlike the preceding Intersection and Street Segment Improvements, the Multimodal component of the TIF has been established using an “asset-based” methodology. Rather than establishing existing and future deficiencies on a location-by-location basis, a citywide multimodal service standard, by multimodal asset type, has been calculated based on the proposed City of Benicia bikeway and sidewalk improvements included in the 2020 STA Active Transportation Plan.

Other Projects

Other types of planning projects that are not as easily categorized are also include in the fee program, including a Citywide Traffic Calming Plan, the General Plan Circulation Element Update, and the next update of the Transportation Impact Fee program, including the associated transportation modeling. Implementation of the Citywide Traffic Calming Plan (the improvements themselves) are included here as well.

Appendix D: Synchro 11 Reports

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	30	70	83	67	25	90	81	86	9	34	8
Future Vol, veh/h	7	30	70	83	67	25	90	81	86	9	34	8
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	25	25	25	25	25	25	25	25	25	25	25	25
Mvmt Flow	8	33	77	91	74	27	99	89	95	10	37	9
Number of Lanes	1	1	1	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	3
HCM Control Delay	9.2	12.7	11.2	10.2
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	SBLn1
Vol Left, %	53%	0%	100%	0%	0%	47%	18%
Vol Thru, %	47%	0%	0%	100%	0%	38%	67%
Vol Right, %	0%	100%	0%	0%	100%	14%	16%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	171	86	7	30	70	175	51
LT Vol	90	0	7	0	0	83	9
Through Vol	81	0	0	30	0	67	34
RT Vol	0	86	0	0	70	25	8
Lane Flow Rate	188	95	8	33	77	192	56
Geometry Grp	8	8	7	7	7	8	8
Degree of Util (X)	0.335	0.143	0.014	0.057	0.119	0.348	0.104
Departure Headway (Hd)	6.414	5.446	6.775	6.269	5.561	6.508	6.679
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	562	660	529	572	645	554	537
Service Time	4.139	3.171	4.502	3.996	3.287	4.235	4.415
HCM Lane V/C Ratio	0.335	0.144	0.015	0.058	0.119	0.347	0.104
HCM Control Delay	12.3	9.1	9.6	9.4	9	12.7	10.2
HCM Lane LOS	B	A	A	A	A	B	B
HCM 95th-tile Q	1.5	0.5	0	0.2	0.4	1.5	0.3

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↱	
Traffic Vol, veh/h	0	127	52	0	21	123
Future Vol, veh/h	0	127	52	0	21	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	21	21	21	21	21	21
Mvmt Flow	0	155	63	0	26	150

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	218	63
Stage 1	-	-	-	-	63	-
Stage 2	-	-	-	-	155	-
Critical Hdwy	-	-	-	-	6.61	6.41
Critical Hdwy Stg 1	-	-	-	-	5.61	-
Critical Hdwy Stg 2	-	-	-	-	5.61	-
Follow-up Hdwy	-	-	-	-	3.689	3.489
Pot Cap-1 Maneuver	0	-	-	0	730	951
Stage 1	0	-	-	0	913	-
Stage 2	0	-	-	0	829	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	730	951
Mov Cap-2 Maneuver	-	-	-	-	730	-
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	829	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	911
HCM Lane V/C Ratio	-	-	0.193
HCM Control Delay (s)	-	-	9.9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.7

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	32	114	54	9	0	0
Future Vol, veh/h	32	114	54	9	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	23	23	23	23	23	23
Mvmt Flow	39	137	65	11	0	0

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	0	215	0
Stage 1	-	-	0	-
Stage 2	-	-	215	-
Critical Hdwy	4.33	-	6.73	6.43
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.73	-
Follow-up Hdwy	2.407	-	4.207	3.507
Pot Cap-1 Maneuver	-	-	647	-
Stage 1	-	-	-	-
Stage 2	-	-	687	-
Platoon blocked, %		-		
Mov Cap-1 Maneuver	-	-	0	-
Mov Cap-2 Maneuver	-	-	0	-
Stage 1	-	-	0	-
Stage 2	-	-	0	-

Approach	EB	WB
HCM Control Delay, s		
HCM LOS		-

Minor Lane/Major Mvmt	EBL	EBTWBLn1
Capacity (veh/h)	-	- -
HCM Lane V/C Ratio	-	- -
HCM Control Delay (s)	-	- -
HCM Lane LOS	-	- -
HCM 95th %tile Q(veh)	-	- -

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	8	10	32	9	243	8	5	8	148	23	17
Future Vol, veh/h	10	8	10	32	9	243	8	5	8	148	23	17
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	24	24	24	24	24	24	24	24	24	24	24	24
Mvmt Flow	12	9	12	38	11	286	9	6	9	174	27	20
Number of Lanes	0	1	0	0	1	1	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	1
HCM Control Delay	9.3	10.8	9.4	11.3
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	38%	36%	78%	0%	100%	0%
Vol Thru, %	24%	29%	22%	0%	0%	57%
Vol Right, %	38%	36%	0%	100%	0%	42%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	28	41	243	148	40
LT Vol	8	10	32	0	148	0
Through Vol	5	8	9	0	0	23
RT Vol	8	10	0	243	0	17
Lane Flow Rate	25	33	48	286	174	47
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.041	0.054	0.082	0.396	0.308	0.073
Departure Headway (Hd)	6.022	5.924	6.086	4.99	6.364	5.561
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	590	601	588	720	562	640
Service Time	4.108	3.997	3.831	2.735	4.131	3.327
HCM Lane V/C Ratio	0.042	0.055	0.082	0.397	0.31	0.073
HCM Control Delay	9.4	9.3	9.4	11	12	8.8
HCM Lane LOS	A	A	A	B	B	A
HCM 95th-tile Q	0.1	0.2	0.3	1.9	1.3	0.2

Intersection	
Int Delay, s/veh	9.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	30	0	0	26	272	47
Future Vol, veh/h	30	0	0	26	272	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	30
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	16	16	16	16	16	16
Mvmt Flow	38	0	0	33	344	59

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	71	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	33	-
Critical Hdwy	-	-	-	-	6.56	6.36
Critical Hdwy Stg 1	-	-	-	-	5.56	-
Critical Hdwy Stg 2	-	-	-	-	5.56	-
Follow-up Hdwy	-	-	-	-	3.644	3.444
Pot Cap-1 Maneuver	-	0	0	-	900	995
Stage 1	-	0	0	-	950	-
Stage 2	-	0	0	-	955	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	900	995
Mov Cap-2 Maneuver	-	-	-	-	900	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	900	995	-	-
HCM Lane V/C Ratio	0.383	0.06	-	-
HCM Control Delay (s)	11.5	8.8	-	-
HCM Lane LOS	B	A	-	-
HCM 95th %tile Q(veh)	1.8	0.2	-	-

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	10	14	10	13	13
Future Vol, veh/h	6	10	14	10	13	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	85	-	-	45	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	7	11	15	11	14	14

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	63	21	0	0	26	0
Stage 1	21	-	-	-	-	-
Stage 2	42	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.18	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.272	-
Pot Cap-1 Maneuver	928	1039	-	-	1550	-
Stage 1	986	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	920	1039	-	-	1550	-
Mov Cap-2 Maneuver	920	-	-	-	-	-
Stage 1	986	-	-	-	-	-
Stage 2	956	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	3.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	920	1039	1550	-
HCM Lane V/C Ratio	-	-	0.007	0.01	0.009	-
HCM Control Delay (s)	-	-	8.9	8.5	7.3	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	26	47	0	1	17	0	0	1	1	1	0	19
Future Vol, veh/h	26	47	0	1	17	0	0	1	1	1	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	8	8	8	8	8	8	8	8	8	8	8	8
Mvmt Flow	30	55	0	1	20	0	0	1	1	1	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	20	0	0	55	0	0	148	137	55	138	137	20
Stage 1	-	-	-	-	-	-	115	115	-	22	22	-
Stage 2	-	-	-	-	-	-	33	22	-	116	115	-
Critical Hdwy	4.18	-	-	4.18	-	-	7.18	6.58	6.28	7.18	6.58	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	6.18	5.58	-	6.18	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.18	5.58	-	6.18	5.58	-
Follow-up Hdwy	2.272	-	-	2.272	-	-	3.572	4.072	3.372	3.572	4.072	3.372
Pot Cap-1 Maneuver	1558	-	-	1512	-	-	807	743	995	819	743	1041
Stage 1	-	-	-	-	-	-	875	789	-	981	865	-
Stage 2	-	-	-	-	-	-	968	865	-	874	789	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1558	-	-	1512	-	-	777	727	995	804	727	1041
Mov Cap-2 Maneuver	-	-	-	-	-	-	777	727	-	804	727	-
Stage 1	-	-	-	-	-	-	858	773	-	961	864	-
Stage 2	-	-	-	-	-	-	947	864	-	854	773	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.6	0.4	9.3	8.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	840	1558	-	-	1512	-	-	1026
HCM Lane V/C Ratio	0.003	0.019	-	-	0.001	-	-	0.023
HCM Control Delay (s)	9.3	7.4	0	-	7.4	0	-	8.6
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	8	7	17	17	8
Future Vol, veh/h	2	8	7	17	17	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	21	21	21	21	21	21
Mvmt Flow	3	11	10	24	24	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	74	30	35	0	-	0
Stage 1	30	-	-	-	-	-
Stage 2	44	-	-	-	-	-
Critical Hdwy	6.61	6.41	4.31	-	-	-
Critical Hdwy Stg 1	5.61	-	-	-	-	-
Critical Hdwy Stg 2	5.61	-	-	-	-	-
Follow-up Hdwy	3.689	3.489	2.389	-	-	-
Pot Cap-1 Maneuver	885	992	1462	-	-	-
Stage 1	946	-	-	-	-	-
Stage 2	932	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	879	992	1462	-	-	-
Mov Cap-2 Maneuver	879	-	-	-	-	-
Stage 1	939	-	-	-	-	-
Stage 2	932	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	2.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1462	-	967	-	-
HCM Lane V/C Ratio	0.007	-	0.015	-	-
HCM Control Delay (s)	7.5	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	19.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	74	92	216	42	4	38	28	102	13	177	8
Future Vol, veh/h	7	74	92	216	42	4	38	28	102	13	177	8
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	9	97	121	284	55	5	50	37	134	17	233	11
Number of Lanes	1	1	1	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	3
HCM Control Delay	11.5	29.5	12.7	19.5
HCM LOS	B	D	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	SBLn1
Vol Left, %	58%	0%	100%	0%	0%	82%	7%
Vol Thru, %	42%	0%	0%	100%	0%	16%	89%
Vol Right, %	0%	100%	0%	0%	100%	2%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	66	102	7	74	92	262	198
LT Vol	38	0	7	0	0	216	13
Through Vol	28	0	0	74	0	42	177
RT Vol	0	102	0	0	92	4	8
Lane Flow Rate	87	134	9	97	121	345	261
Geometry Grp	8	8	7	7	7	8	8
Degree of Util (X)	0.196	0.266	0.02	0.198	0.222	0.74	0.553
Departure Headway (Hd)	8.14	7.129	7.823	7.31	6.592	7.73	7.639
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	440	503	457	490	542	469	472
Service Time	5.904	4.891	5.586	5.073	4.355	5.487	5.398
HCM Lane V/C Ratio	0.198	0.266	0.02	0.198	0.223	0.736	0.553
HCM Control Delay	12.9	12.5	10.7	11.9	11.2	29.5	19.5
HCM Lane LOS	B	B	B	B	B	D	C
HCM 95th-tile Q	0.7	1.1	0.1	0.7	0.8	6.1	3.3

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↱	
Traffic Vol, veh/h	0	189	163	0	4	97
Future Vol, veh/h	0	189	163	0	4	97
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	0	252	217	0	5	129

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	469	217
Stage 1	-	-	-	-	217	-
Stage 2	-	-	-	-	252	-
Critical Hdwy	-	-	-	-	6.5	6.3
Critical Hdwy Stg 1	-	-	-	-	5.5	-
Critical Hdwy Stg 2	-	-	-	-	5.5	-
Follow-up Hdwy	-	-	-	-	3.59	3.39
Pot Cap-1 Maneuver	0	-	-	0	538	803
Stage 1	0	-	-	0	801	-
Stage 2	0	-	-	0	772	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	538	803
Mov Cap-2 Maneuver	-	-	-	-	538	-
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	772	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	788
HCM Lane V/C Ratio	-	-	0.171
HCM Control Delay (s)	-	-	10.5
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.6

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	147	47	162	38	0	0
Future Vol, veh/h	147	47	162	38	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	67	67	67	67	67	67
Heavy Vehicles, %	9	9	9	9	9	9
Mvmt Flow	219	70	242	57	0	0

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	0	508	0
Stage 1	-	-	0	-
Stage 2	-	-	508	-
Critical Hdwy	4.19	-	6.59	6.29
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.59	-
Follow-up Hdwy	2.281	-	4.081	3.381
Pot Cap-1 Maneuver	-	-	458	-
Stage 1	-	-	-	-
Stage 2	-	-	527	-
Platoon blocked, %		-		
Mov Cap-1 Maneuver	-	-	0	-
Mov Cap-2 Maneuver	-	-	0	-
Stage 1	-	-	0	-
Stage 2	-	-	0	-

Approach	EB	WB
HCM Control Delay, s		
HCM LOS		-

Minor Lane/Major Mvmt	EBL	EBTWBLn1
Capacity (veh/h)	-	- -
HCM Lane V/C Ratio	-	- -
HCM Control Delay (s)	-	- -
HCM Lane LOS	-	- -
HCM 95th %tile Q(veh)	-	- -

Intersection	
Intersection Delay, s/veh	41.6
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	14	0	4	6	124	0	33	31	464	37	6
Future Vol, veh/h	7	14	0	4	6	124	0	33	31	464	37	6
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	9	18	0	5	8	161	0	43	40	603	48	8
Number of Lanes	0	1	0	0	1	1	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	1
HCM Control Delay	10.7	11.2	10	54.9
HCM LOS	B	B	A	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	33%	40%	0%	100%	0%
Vol Thru, %	52%	67%	60%	0%	0%	86%
Vol Right, %	48%	0%	0%	100%	0%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	21	10	124	464	43
LT Vol	0	7	4	0	464	0
Through Vol	33	14	6	0	0	37
RT Vol	31	0	0	124	0	6
Lane Flow Rate	83	27	13	161	603	56
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.139	0.055	0.026	0.276	0.995	0.083
Departure Headway (Hd)	6.017	7.261	7.084	6.17	5.943	5.342
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	596	493	505	581	615	672
Service Time	4.05	5.311	4.825	3.91	3.66	3.059
HCM Lane V/C Ratio	0.139	0.055	0.026	0.277	0.98	0.083
HCM Control Delay	10	10.7	10	11.3	59.2	8.5
HCM Lane LOS	A	B	A	B	F	A
HCM 95th-tile Q	0.5	0.2	0.1	1.1	14.8	0.3

Intersection	
Int Delay, s/veh	5.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	22	0	0	93	99	22
Future Vol, veh/h	22	0	0	93	99	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	30
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	19	19	19	19	19	19
Mvmt Flow	31	0	0	131	139	31

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	162	31
Stage 1	-	-	-	-	31	-
Stage 2	-	-	-	-	131	-
Critical Hdwy	-	-	-	-	6.59	6.39
Critical Hdwy Stg 1	-	-	-	-	5.59	-
Critical Hdwy Stg 2	-	-	-	-	5.59	-
Follow-up Hdwy	-	-	-	-	3.671	3.471
Pot Cap-1 Maneuver	-	0	0	-	791	996
Stage 1	-	0	0	-	949	-
Stage 2	-	0	0	-	855	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	791	996
Mov Cap-2 Maneuver	-	-	-	-	791	-
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	855	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	791	996	-	-
HCM Lane V/C Ratio	0.176	0.031	-	-
HCM Control Delay (s)	10.5	8.7	-	-
HCM Lane LOS	B	A	-	-
HCM 95th %tile Q(veh)	0.6	0.1	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	8	7	7	2	43
Future Vol, veh/h	18	8	7	7	2	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	85	-	-	45	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	7	7	7	7	7	7
Mvmt Flow	23	10	9	9	3	54

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	74	14	0	0	18	0
Stage 1	14	-	-	-	-	-
Stage 2	60	-	-	-	-	-
Critical Hdwy	6.47	6.27	-	-	4.17	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.363	-	-	2.263	-
Pot Cap-1 Maneuver	917	1052	-	-	1567	-
Stage 1	996	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	915	1052	-	-	1567	-
Mov Cap-2 Maneuver	915	-	-	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	948	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	915	1052	1567	-
HCM Lane V/C Ratio	-	-	0.025	0.01	0.002	-
HCM Control Delay (s)	-	-	9	8.5	7.3	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	11	22	0	4	52	1	0	2	2	2	3	54
Future Vol, veh/h	11	22	0	4	52	1	0	2	2	2	3	54
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	27	0	5	64	1	0	2	2	2	4	67

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	65	0	0	27	0	0	165	130	27	132	130	65
Stage 1	-	-	-	-	-	-	55	55	-	75	75	-
Stage 2	-	-	-	-	-	-	110	75	-	57	55	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1537	-	-	1587	-	-	800	761	1048	840	761	999
Stage 1	-	-	-	-	-	-	957	849	-	934	833	-
Stage 2	-	-	-	-	-	-	895	833	-	955	849	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1537	-	-	1587	-	-	737	752	1048	828	752	999
Mov Cap-2 Maneuver	-	-	-	-	-	-	737	752	-	828	752	-
Stage 1	-	-	-	-	-	-	948	841	-	926	831	-
Stage 2	-	-	-	-	-	-	829	831	-	941	841	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0.5	9.1	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	876	1537	-	-	1587	-	-	976
HCM Lane V/C Ratio	0.006	0.009	-	-	0.003	-	-	0.075
HCM Control Delay (s)	9.1	7.4	0	-	7.3	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	3.6

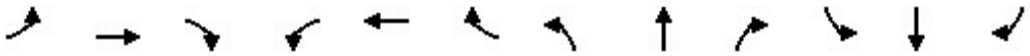
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	2	2	6	18	8
Future Vol, veh/h	18	2	2	6	18	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	14	14	14	14	14	14
Mvmt Flow	24	3	3	8	24	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	44	30	35	0	-	0
Stage 1	30	-	-	-	-	-
Stage 2	14	-	-	-	-	-
Critical Hdwy	6.54	6.34	4.24	-	-	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.426	2.326	-	-	-
Pot Cap-1 Maneuver	937	1011	1502	-	-	-
Stage 1	962	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	935	1011	1502	-	-	-
Mov Cap-2 Maneuver	935	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	1.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1502	-	942	-	-
HCM Lane V/C Ratio	0.002	-	0.028	-	-
HCM Control Delay (s)	7.4	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 6th Signalized Intersection Summary
4: Park Rd & Bayshore Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	8	10	32	9	243	8	5	8	148	23	17
Future Volume (veh/h)	10	8	10	32	9	243	8	5	8	148	23	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1544	1544	1544	1544	1544	1544	1544	1544	1544	1544	1544	1544
Adj Flow Rate, veh/h	12	9	12	38	11	286	9	6	9	174	27	20
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	24	24	24	24	24	24	24	24	24	24	24	24
Cap, veh/h	334	192	158	618	130	446	311	110	102	604	167	124
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	250	563	465	864	382	1309	297	541	503	1155	824	610
Grp Volume(v), veh/h	33	0	0	49	0	286	24	0	0	174	0	47
Grp Sat Flow(s),veh/h/ln	1278	0	0	1246	0	1309	1342	0	0	1155	0	1434
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	2.4	0.0	0.5
Cycle Q Clear(g_c), s	0.3	0.0	0.0	0.4	0.0	3.6	0.3	0.0	0.0	2.7	0.0	0.5
Prop In Lane	0.36		0.36	0.78		1.00	0.37		0.37	1.00		0.43
Lane Grp Cap(c), veh/h	684	0	0	748	0	446	524	0	0	604	0	291
V/C Ratio(X)	0.05	0.00	0.00	0.07	0.00	0.64	0.05	0.00	0.00	0.29	0.00	0.16
Avail Cap(c_a), veh/h	1349	0	0	1446	0	1195	1430	0	0	1424	0	1310
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.4	0.0	0.0	4.4	0.0	5.5	6.4	0.0	0.0	7.3	0.0	6.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.5	0.0	0.0	0.0	0.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.4	0.0	0.0	4.5	0.0	7.0	6.4	0.0	0.0	7.6	0.0	6.7
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		33			335			24			221	
Approach Delay, s/veh		4.4			6.7			6.4			7.4	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		11.2		8.5		11.2		8.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		5.6		2.3		2.3		4.7				
Green Ext Time (p_c), s		1.1		0.0		0.1		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			6.8									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary
4: Park Rd & Bayshore Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	14	0	4	6	124	0	33	31	464	37	6
Future Volume (veh/h)	7	14	0	4	6	124	0	33	31	464	37	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	9	18	0	5	8	161	0	43	40	603	48	8
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	179	228	0	199	216	251	0	484	450	887	848	141
Arrive On Green	0.17	0.17	0.00	0.17	0.17	0.17	0.00	0.58	0.58	0.58	0.58	0.58
Sat Flow, veh/h	264	1345	0	354	1278	1485	0	835	777	1232	1464	244
Grp Volume(v), veh/h	27	0	0	13	0	161	0	0	83	603	0	56
Grp Sat Flow(s),veh/h/ln	1610	0	0	1631	0	1485	0	0	1612	1232	0	1708
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.8	15.2	0.0	0.5
Cycle Q Clear(g_c), s	0.5	0.0	0.0	0.2	0.0	3.6	0.0	0.0	0.8	16.0	0.0	0.5
Prop In Lane	0.33		0.00	0.38		1.00	0.00		0.48	1.00		0.14
Lane Grp Cap(c), veh/h	407	0	0	415	0	251	0	0	934	887	0	990
V/C Ratio(X)	0.07	0.00	0.00	0.03	0.00	0.64	0.00	0.00	0.09	0.68	0.00	0.06
Avail Cap(c_a), veh/h	922	0	0	952	0	766	0	0	1686	1461	0	1787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.6	0.0	0.0	12.5	0.0	13.9	0.0	0.0	3.3	6.9	0.0	3.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.1	0.0	1.2	0.0	0.0	0.1	1.8	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.6	0.0	0.0	12.5	0.0	16.6	0.0	0.0	3.4	7.8	0.0	3.3
LnGrp LOS	B	A	A	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		27			174			83			659	
Approach Delay, s/veh		12.6			16.3			3.4			7.4	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.6		25.3		10.6		25.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		37.5		18.5		37.5				
Max Q Clear Time (g_c+I1), s		5.6		2.8		2.5		18.0				
Green Ext Time (p_c), s		0.4		0.4		0.1		2.7				

Intersection Summary												
HCM 6th Ctrl Delay			8.9									
HCM 6th LOS			A									



AGENDA ITEM
CITY COUNCIL MEETING DATE – DECEMBER 16, 2025
BUSINESS ITEM

TO : City Manager

FROM : Assistant City Manager

SUBJECT : **DISCUSSION ITEM - PRESENTATION OF VALERO REUSE SCAN**

EXECUTIVE SUMMARY:
In April 2025, Valero Refinery announced their intent to idle, restructure or cease refining operations at the Benicia Refinery by the end of April 2026. In light of this announcement, a market-driven analysis of potential reuse scenarios was developed to provide information about potential future opportunities and scenarios for the site and industrial park. This agenda item is informational and provides an opportunity for discussion.

RECOMMENDATION:
Receive information.

BUDGET INFORMATION:
No direct budgetary impacts will result from the presentation of this agenda item. The work was funded by grants awarded from Bay Area Metro to the City of Benicia and Solano Transportation Authority.

BACKGROUND:
The Valero Refinery site encompasses about 900 acres, with about 620 acres used for refinery-related functions and the remainder serving as an undeveloped buffer area between the refinery and nearby residential areas. Following the announcement of the refinery's potential closure in Spring 2025, Valero announced that they were partnering with a regional developer, Signature Development Group, to explore redevelopment opportunities for the site. Although it appears likely that the refinery will cease operations in 2026, neither Valero nor Signature Development Group have announced plans for the site.

The Refinery occupies a sizeable area of land and benefits from good access to road, rail and port infrastructure. In addition, the refinery has access to abundant water and energy resources. It is part of the Industrial Park and Port complex, a major economic engine for the City and region. This reuse scan is high-level analysis of potential industries that may feasibly consider locating at the industrial site. It does not set any direction for the property owner, future developer or the city; rather, it is intended as a starting point to consider what "could be" as the reality of a refinery closure comes into

focus. This information may be helpful in the context of other ongoing influences including the Solano Priority Production Area Plan that is currently being developed by the Solano Economic Development Corporation, Port Modernization Plan, and efforts by both State and Federal government to onshore advanced manufacturing and shipbuilding industries.

The reuse scan encompasses the following distinct tasks:

- Site Characterization – summarize the existing building and facilities, location attributes and local assets that will aid or influence the reuse of the site.
- Industry Opportunity Scan – review case examples and conduct interviews to identify challenges or opportunities related to reuse. Identify potential emerging industries with consideration to infrastructure, workforce, site requirement and capacity.
- Conceptual Reuse Scenarios – develop conceptual reuse scenarios to identify where potential industries and other uses could be located. Provide a qualitative evaluation of each scenario to test impacts related to job creation, tax and revenue generation, alignment with the existing industry mix, compatibility with existing and potential housing, and synergy with the site's major assets.

The deliverable for this effort is a presentation to the City Council which will be provided during the evening of December 16. No action nor additional steps are proposed.

NEXT STEPS:
None.

ALTERNATIVE ACTIONS:
None.

CEQA Analysis	The presentation of information is not a project under CEQA Guidelines §15378 and does not require environmental review.

ATTACHMENT(S):
None.

For more information contact: Suzanne Thorsen, Assistant City Manager
Phone: (707) 746-4280
E-mail: sthorsen@ci.benicia.ca.us

AGENDA ITEM
CITY COUNCIL MEETING DATE – DECEMBER 16, 2025
BUSINESS ITEM

TO : City Manager

FROM : Public Works Director

SUBJECT : **APPROVING USE OF AMPORTS, INC. SETTLEMENT FUNDS FOR THE SOUTHERN PACIFIC RAILROAD DEPOT**

EXECUTIVE SUMMARY:

In 2019, the City received $800,000 from a settlement with AMPORTS, Inc. (AMPORTS) to be used to rehabilitate City-owned historic structures. Council approved the use of all settlement funds for use on the Southern Pacific Railroad Depot (S.P. Depot). This request is to reallocate funds to replace the roof, gutters, deck, trim and repaint the S.P. Depot.

RECOMMENDATION:

Move to adopt a resolution (attachment 1) approving the use of AMPORTS Settlement funds to pay for the replacement of the roof, gutters, deck, trim and repaint.

BUDGET INFORMATION:

There are no budget impacts at this time. Staff will bring back the award of contract at a later date for Council approval and a budget amendment.

BACKGROUND:

The City of Benicia entered into a settlement agreement with AMPORTS on December 31, 2019, concerning demolition of a fire-damaged historic building on the site of the former Pacific Mail Steamship Company located at 670 East H Street. Pursuant to the agreement, the City received $800,000 to be used for rehabilitation of City-owned historic structures.

On October 6, 2020, Council provided a framework for determining how to allocate funds and directed staff to complete outreach. On April 22, 2021, the Historic Preservation Review Commission recommended that Council dedicate the available $800,000 of settlement funds to the S.P. Depot (approved 6-0).

On May 25, 2021, Council reviewed project options for the allocation of the settlement agreement with AMPORTS and Council unanimously agreed to spend the full amount of

the settlement funds toward the rehabilitation and upgrade of the S.P. Depot, including Americans with Disabilities Act (ADA) accessibility improvements to the freight room.

The roof, gutters, deck, trim, and paint are in poor condition and need to be replaced as soon as possible. Bids were received in May 2025, but they are now out of date and the project will need to be rebid. Additional funding would be required to complete the ADA improvements to the freight room.

NEXT STEPS:
If reallocation is approved, staff will move forward with bidding out the project for a contractor to replace the roof, gutters, deck, trim and repaint at the S.P. Depot.

ALTERNATIVE ACTIONS:
If funds are not reallocated, no work will be done.

CEQA Analysis	The project is categorically exempt from further review of the California Environmental Quality Act (CEQA) pursuant to Guidelines Section 15302, (Replacement or Reconstruction), which exempts replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced.

ATTACHMENT:
1. Resolution – Approval of Use of Amports Settlement Funds for S.P. Depot and Budget Amendment

For more information contact: Danielle Bonham, Public Works Director
Phone: 707-746-4240
E-mail: PW@ci.benicia.ca.us

RESOLUTION NO. 25-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA APPROVING USE OF AMPORTS, INC. SETTLEMENT FUNDS FOR THE SOUTHERN PACIFIC RAILROAD DEPOT

WHEREAS, in 2019, the City received $800,000 from a settlement with AMPORTS, Inc. (AMPORTS) to be used to rehabilitate City-owned historic structures; and

WHEREAS, on May 25, 2021, Council approved the use of all settlement funds for rehabilitation and upgrade of the Southern Pacific Railroad Depot (S.P. Depot), including Americans with Disabilities Act (ADA) accessibility improvements to the freight room; and

WHEREAS, the roof, gutters, deck, trim and paint of the S.P. Depot are in poor condition and in need of immediate rehabilitation;

WHEREAS, bids were obtained in May 2025 and are now out of date; staff will rebid the project and bring back to Council for award; and

WHEREAS, to complete the rehabilitation of the roof, gutters, deck, trim, and paint within the settlement fund amount, the ADA accessibility improvements to the freight room need to be removed from the scope of work;

NOW, THEREFORE, BE IT RESOLVED THAT the City Council of the City of Benicia does hereby authorize approving use of Amports, Inc. Settlement Funds for the replacement of the roof, gutters, deck, trim and repaint of the Southern Pacific Railroad Depot and rescinds the authorization for use of settlement funds for ADA accessibility improvements to the freight room.

*****

On motion of Council Member , seconded by Council Member , the above Resolution was adopted by the City Council of the City of Benicia at a regular meeting of said Council held on the 16th day of December 2025 by the following vote:

Ayes:

Noes:

Absent:

Abstain:

_____
Steve Young, Mayor

Attest:

_____
Lisa Wolfe, City Clerk

_____
Date

AGENDA ITEM
CITY COUNCIL MEETING DATE – DECEMBER 16, 2025
COUNCIL MEMBER COMMITTEE REPORT

TO : City Manager

FROM : City Council

SUBJECT : **AD HOC "ACT" TASK FORCE GROUPS UPDATES**

The ad hoc City Council "ACT" Task Force Groups: Advocacy, Collaboration & Transition solicits feedback and participation from stakeholders as they deem helpful to gather information germane to their purpose, including business owners, employees, labor leaders, community members and governmental and non-governmental organizations.

The second City Council meeting of each month serves as an opportunity for the members of Council to report on the progress of each ad hoc group.

Task Force 1: ADVOCATE for Benicia's Economy: - Mayor Young
This Task Force:

- Serves as a point of contact and leads efforts to work with State Officials such as the Governor's Office of Economic Development, the California Energy Commission, elected leaders, labor and business representatives to advocate on behalf of Benicia relating to the potential shutdown of the refinery.
- Gathers information and reports on the economic value of the refining operations to Benicia's economy, county employment, the States economy as well as the importance the Benicia refinery is to Travis Air Force Base.

Task Force 2: COLLABORATE with Community: Non-Profit Organizations, Sports Groups, Benicia Unified School District, Restaurants & Hotels - Council Member Largaespada
This Task Force:

- Coordinates between the various community groups that receive contributions and support from Valero.
- Understands the economic impact to these groups and facilitate collaboration between groups to maximize resources where possible and generate plans on how to proceed with either less funding or new means of revenue. Similarly, with sports groups, the intent is to quantify the financial contribution made to sports groups and how reduced support from Valero could impact users.

- Coordinates with Benicia Unified School District to analyze the impact on property tax revenue to the District and any other direct revenue loss from Valero's cessation of operations.
- Seeks to quantify the economic impact on hotels and restaurants with Valero's exit. The work of Councilmember Largaespada is to coordinate information, facilitate cooperation of resources between groups where feasible, and develop a plan of action on how to overcome the loss of revenue with Valero's departure.

Task Force 3: COLLABORATE with Benicia Industrial Park (BIP): Existing industrial park businesses, Rose Estates and Port of Benicia - Council Member Birdseye

This Task Force:

- Works with impacted BIP businesses; understanding the impact on jobs, lost revenue and impacts on the stream of commerce.
- Coordinates the plans and actions of Rose Estates, the Priority Production Area plan of the Port with redevelopment efforts of the 930 acres of Valero's property with any interested developers.
- There may be an opportunity to synchronize development activity and/or work to incentivize new business development into the BIP including offshore wind manufacturing.

Task Force 4: TRANSITION Prepare for Transition and Redevelopment of Valero's 930 acres: Valero & Signature Development Group - Vice Mayor Macenski & Council Member Scott

This Task Force:

- Collaborates with Valero and Signature Development Group to imagine the possible reuse opportunities for the 930 acres of Valero's property.
- Helps to facilitate stakeholder involvement to solicit public feedback and visioning. Identifies the types of uses, be it residential commercial or industrial and those uses can be best incorporated into Benicia.
- Identifies reports and information that would be helpful to forecast highest and best use for Benicia's economic viability and environmental sustainability.

AGENDA ITEM
CITY COUNCIL MEETING DATE – DECEMBER 16, 2025
COUNCIL MEMBER COMMITTEE REPORT

TO : City Council

FROM : City Manager

SUBJECT : **COUNCIL MEMBER COMMITTEE REPORTS**

The outside agency committees on which City of Benicia Council Members serve, are listed below. Please click on the links to view current and past agendas and minutes for all Council Member Committee Reports.

Association of Bay Area Governments (ABAG)
https://abag.ca.gov/meetings

Community Action Partnership Solano Joint Powers Authority (CAP Solano JPA)
http://www.capsolanojpa.org/agendas---minutes.html

Green Empowerment Zone Board of Directors
https://www.contracosta.ca.gov/9963/Governing-Board-of-the-Green-Empowerment

Marin Clean Energy (MCE)
https://www.mcecleanenergy.org/meeting-archive/

Solano County Water Agency (SCWA)
https://www.scwa2.com/governance/board-meetings-agendas-minutes/

SolTrans Joint Powers Authority
https://soltrans.org/resources/meetings/

Solano Transportation Authority (STA)
https://sta.ca.gov/meetings-agendas/

Valero Citizens Advisory Committee (CAP)
https://www.beniciacap.com/