

SOLAR OVERLAY ZONING ORDINANCE

Presented to Contra Costa County Municipal Advisory Committees

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Contra Costa County Department of Conservation and Development

Telma Moreira, Principal Planner, Telma.Moreira@dcd.cccounty.us, 925-674-7783

Jody London, Sustainability Coordinator, Jody.London@dcd.cccounty.us, 925-674-7871

Today's Presentation

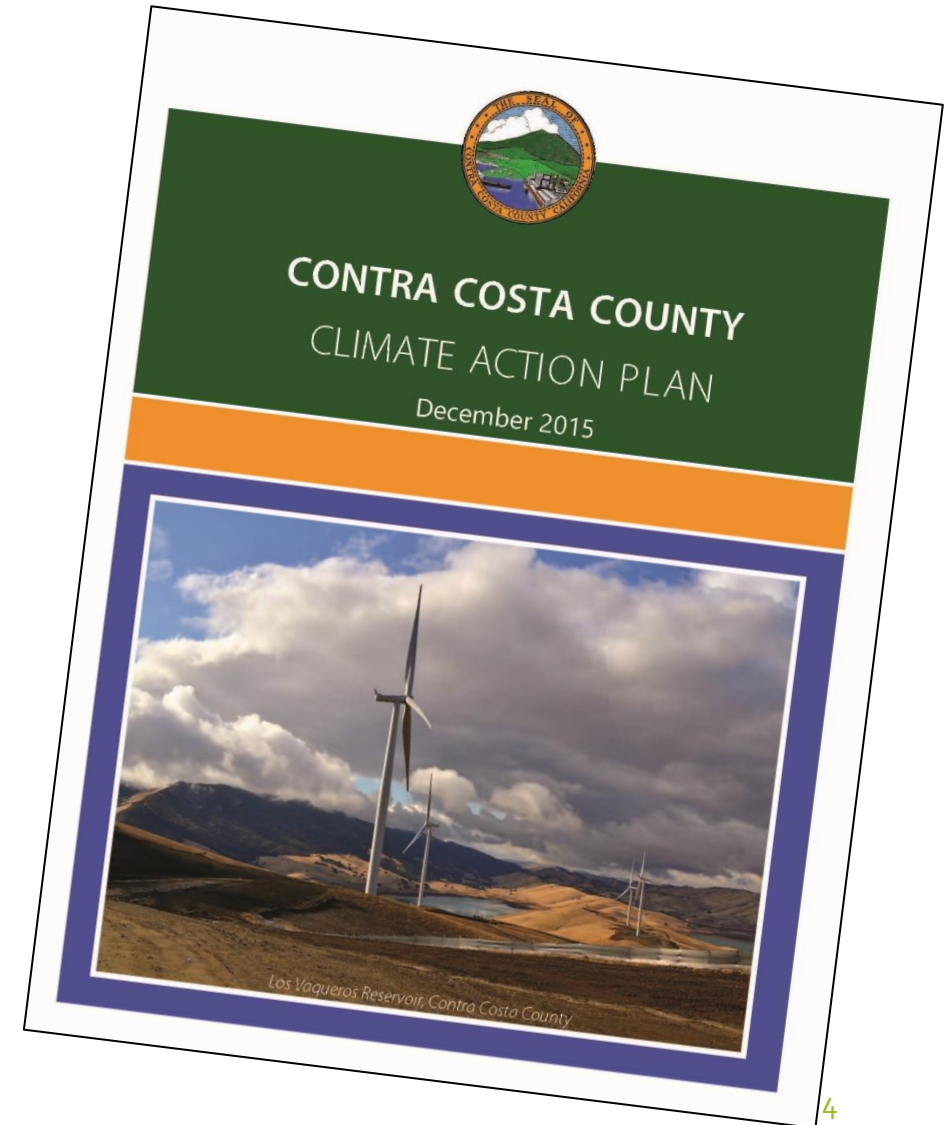
- **Contra Costa County's work on climate action**
- **Review of Clean Energy Potential Study**
- **Recommended Solar Overlay Ordinance**



CLIMATE ACTION PLAN

Why Have a Climate Action Plan?

- Better air quality/reduce pollution emissions
- Improve community health and promote health equity
- Adapt to climate change impacts
 - Rising sea levels, including waterfront and Delta
 - More extreme heat events
 - Drought
 - Fire
 - Less fresh water
- Meet State environmental requirements
- Other benefits, including:
 - Enhanced quality of life
 - Lower energy bills
 - Support local economy



Clean Energy – 2015 Climate Action Plan Goals

Strategy #	Action	Performance Target	GHG Reduction Goals (MTCO ₂ e)	Department(s)
RE 1: Alternative Energy Installations	Promote installation of alternative energy facilities on homes and businesses	New homes with solar	2020: 8,280 2035: 14,840	Conservation and Development
		Existing homes with solar		
		New businesses with solar		
		Existing businesses with solar		
		kW supplied by PG&E Green Tariff program		
RE 2: Alternative Energy Facilities	Promote installation of alternative energy facilities on public land	MW solar installed at public facilities in unincorporated area	2020: 270 2035: 630	Conservation and Development, Public Works
RE 3: Alternative Energy Financing	Lower barriers to entry for the installation of alternative energy systems	n/a	Supportive of overall reductions	Conservation and Development

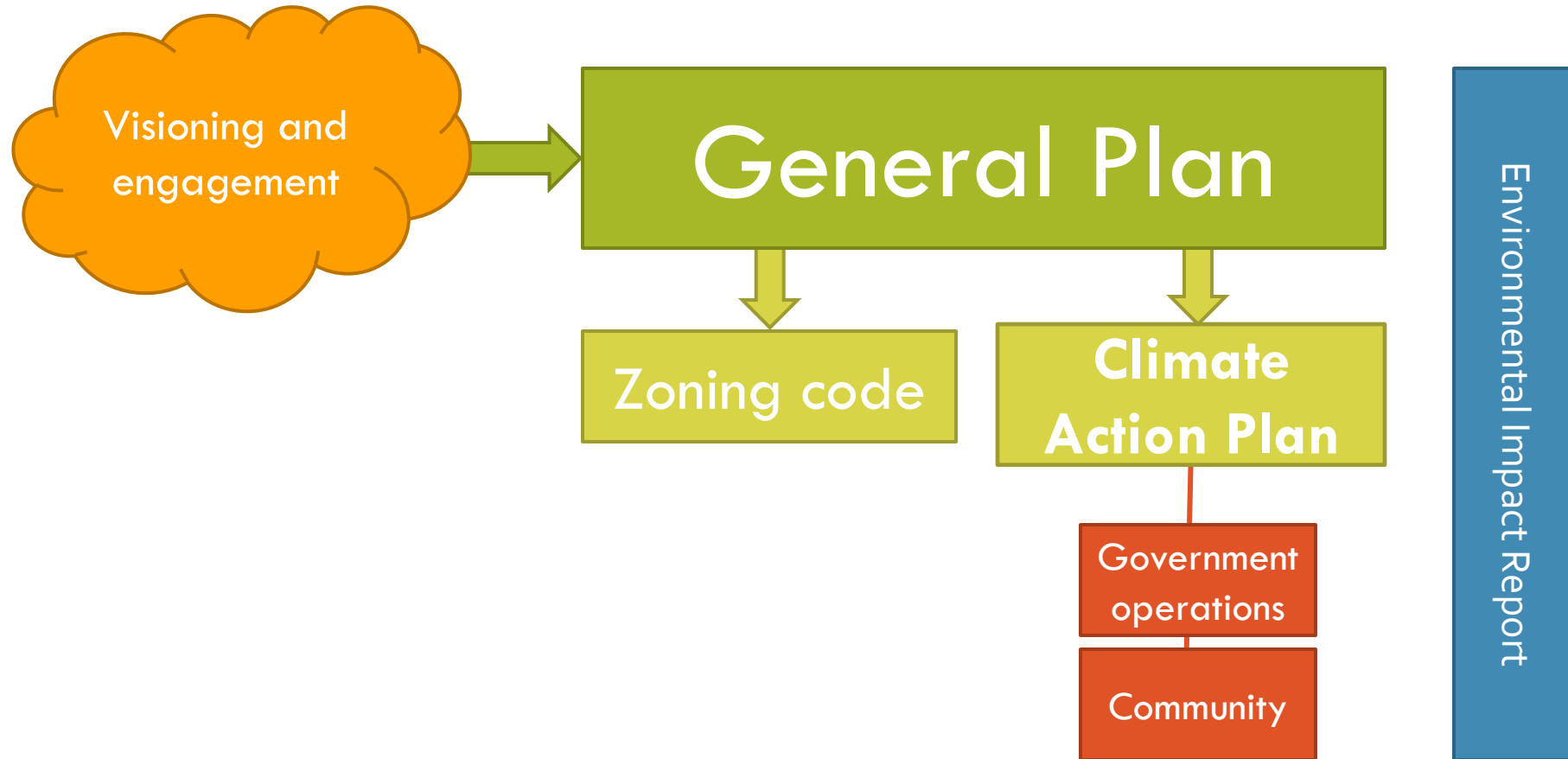


County General Plan Update



- First update in 30 years
- Governs land use
- Incorporate new requirements for health, sustainability, resiliency, environmental justice, and more
- Meetings ongoing
- Scheduled to be adopted by December 2020
- envisioncontracosta2040.org/

Envision Contra Costa



Climate Action Plan Update

- **Part of General Plan update.**
 - Will integrate with multiple sections of General Plan.
- **Extends and expands strategic Greenhouse gas reduction plan.**
- **Consistent with new regulations.**
- **Should be complete by end of 2020.**

Land use and
growth
management

Equity and
prosperity

Transportation
and
circulation

Environmental
justice

Conservation
and open
space

Multiple other
topics



CLEAN ENERGY POTENTIAL STUDY

Clean Energy Potential Study - 2018

- Purpose:
 - Identify how much clean energy (solar, wind, biomass, biogas) can be generated within Contra Costa County, how much that might cost, and constraints and tradeoffs
 - Look at options to update current policy and zoning to facilitate development of more renewable energy, while remaining mindful of planning considerations and trade-offs
- \$49,000 grant from California Strategic Growth Council
- Study prepared by the Cadmus Group
- Explored opportunities to develop community wind and solar projects in Bay Point, Rodeo, and North Richmond
- Seven cities contributed funding and received assessments of potential solar resources in their jurisdictions



Key Findings

- Anywhere from 50% to 83% of total energy used in the County could be generated here, looking only at technical potential.
- Potential solar energy generation is split between existing rooftops and parking lots in developed areas, and undeveloped “greenfield” parcels in rural areas.
- Solar generation on undeveloped parcels is more cost-effective, but involves trade-offs with other priority land uses, such as agriculture and open space.



Technical Potential for Clean Energy in Contra Costa County

Type		MW Capacity		Annual MWh	
		Low	High	Low	High
Solar	Rooftops	1450	2600	2,290,000	4,100,000
	Parking Lots	180	530	280,000	840,000
	Unlikely to be Developed	120	310	190,000	490,000
	Agricultural Land with Constraints	760	970	1,200,000	1,530,000
	Total Solar	2,510	4,410	3,960,000	6,960,000
Wind	Total Wind	35	35	76,700	76,700
Biomass	Agricultural	3	6	24,100	48,200
	Wood Waste	6	26	48,000	192,000
	Landfill	62	78	460,000	580,000
	Total Biomass	71	110	531,000	821,000
Biogas	Food Waste	1.5	1.8	10,000	13,200
	Waste Water	1.7	2.0	12,400	15,200
	Landfill Gas:	11	14	83,400	104,200
	Total Biogas	14	18	107,000	133,000
Grand Total		2,600	4,600	4,674,000	7,990,000



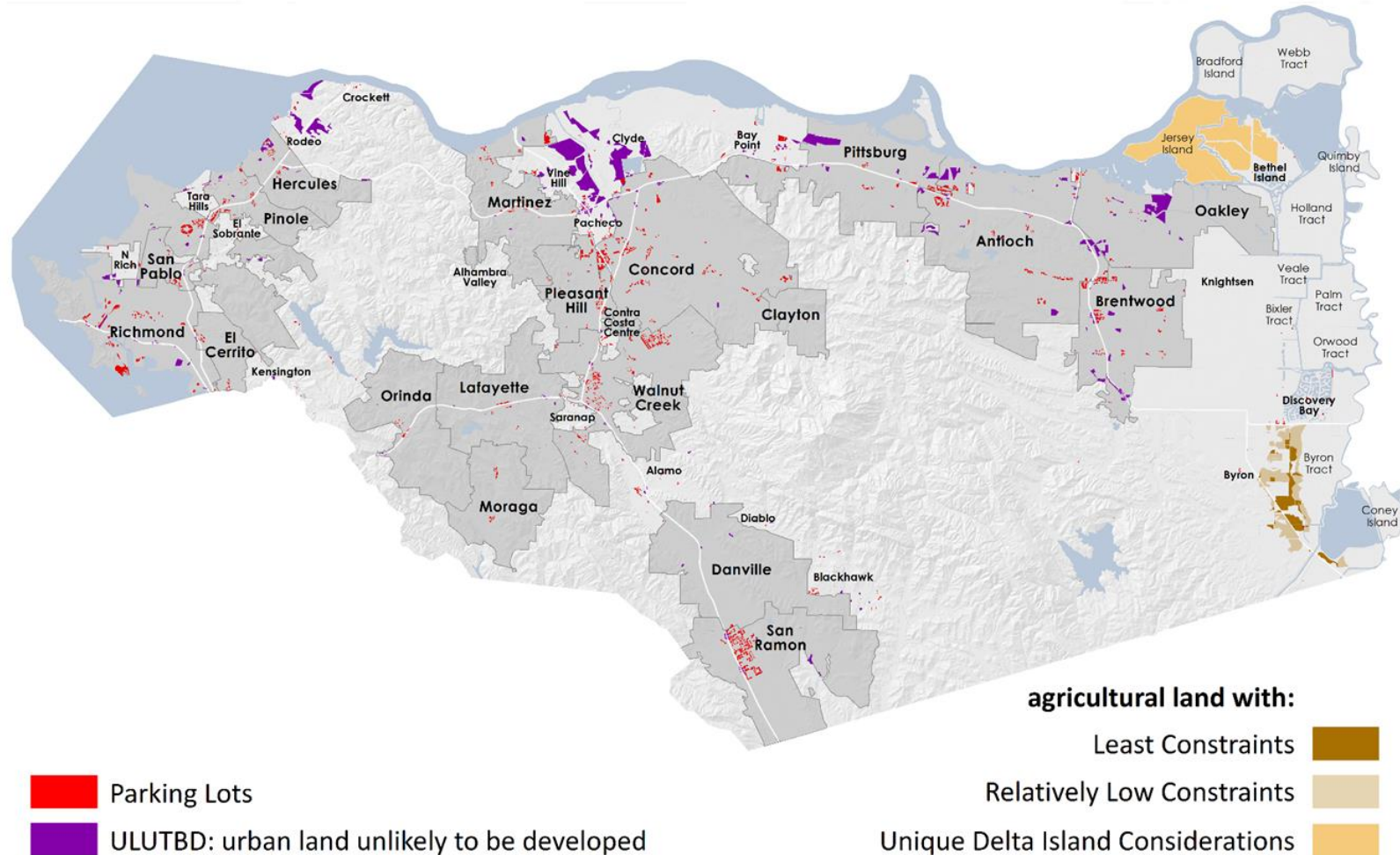
Putting Renewables in Context

- 250 households can be served by 1 Megawatt (MW) of solar Photovoltaic (PV) in California.
- It typically takes 7.5 acres to create 1 MW of solar.
- It would take over 150 typical rooftop installations to produce the same output as a typical 1 MW (7.5 acre) wholesale solar project.
- Solar costs dropped 60-80% between 2009 and 2016, according to the National Renewable Energy Labs.
- The International Renewable Energy Agency forecasts that costs for solar and wind electricity will continue to fall by 59% and 26%, respectively between 2015 and 2025.



Opportunities for Ground Mounted Solar in Contra Costa County

Land considered potentially suitable for ground mounted solar installations

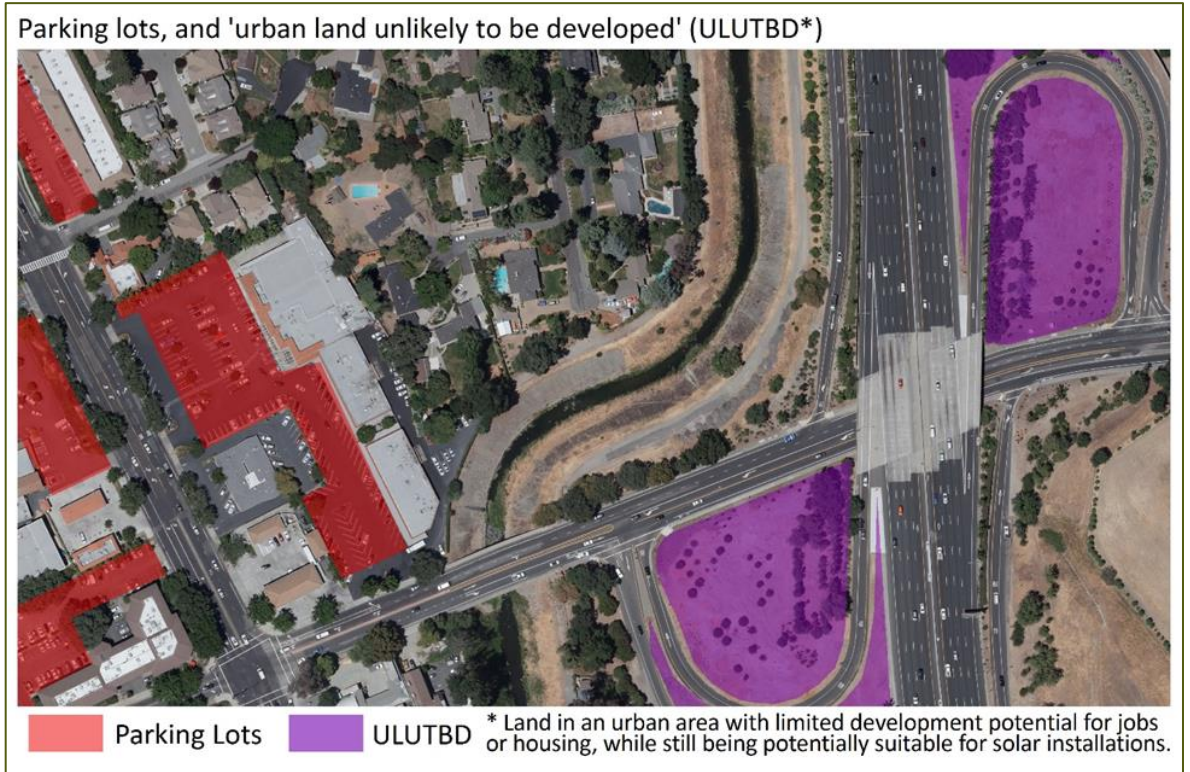


The Study Balances Land Use and Development Interests

Appendix D: Cartography

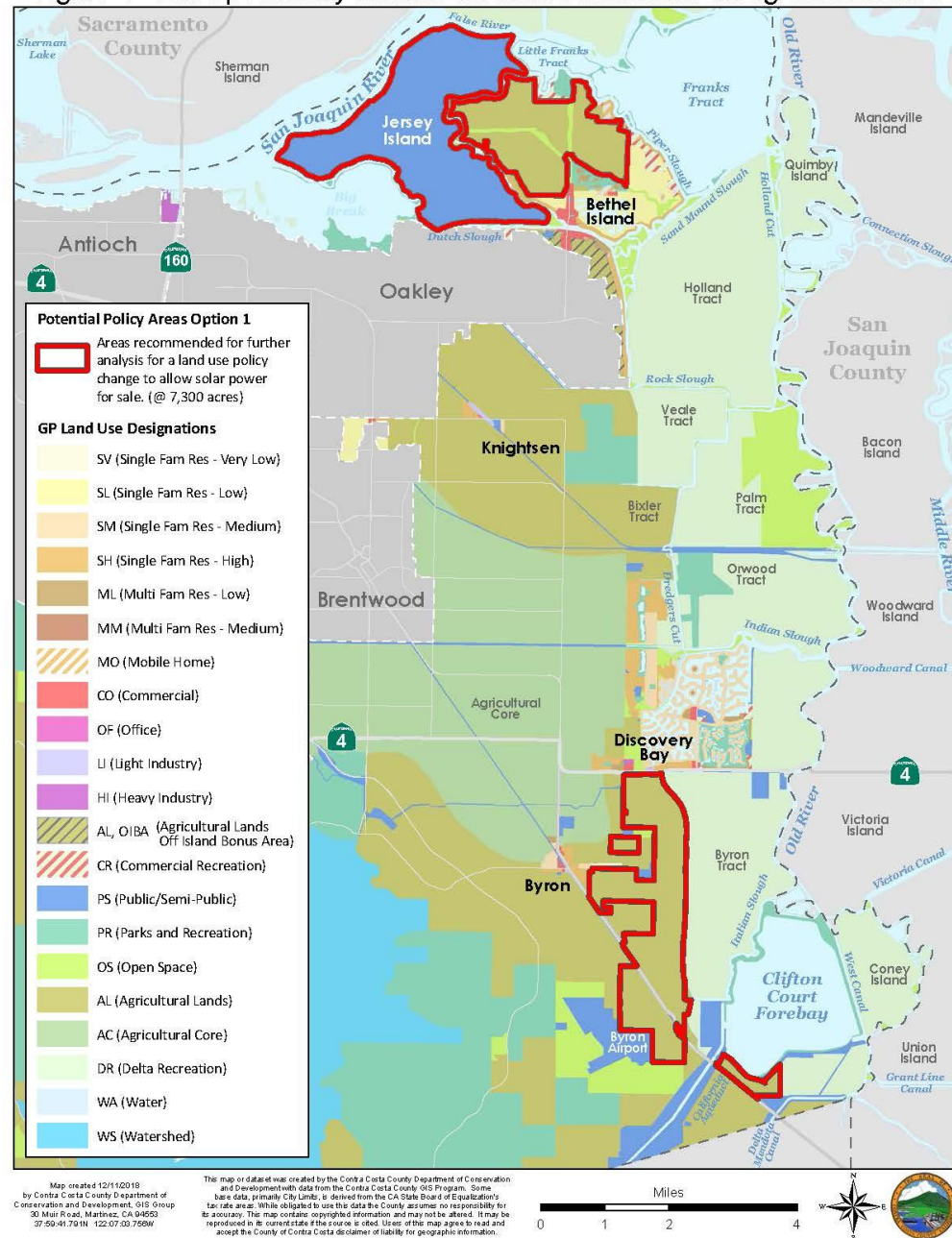
Maps 1-8	Locate areas with significant acreage potentially suitable for large-scale, ground-mounted solar
Maps 9-19	Examine less constrained agricultural areas in eastern part of County
Maps 20-24	Maps of land potentially suitable for solar installations, after removing land with high agricultural value

Example ULUTBD Highway Cloverleaf Potential Solar Site



Land Use Considerations for Commercial Solar Projects

Option 1
Figure 1 - Land potentially suitable for solar installations on agricultural land



Proposed Solar Overlay Ordinance

- Allows development of ground-mounted solar projects, the energy from which will be sold for commercial purposes.
- Requires a land use permit.
- Permit will be reviewed every five years to certify the facility is in compliance with all permits and other requirements
- Ground-mounted projects cannot exceed 25 feet in height
- Roof-mounted projects cannot exceed four feet in height above the roof
- Must include a reclamation plan in the event the project is no longer operational

