

NATURAL
ENVIRONMENT

2



2.1 INTRODUCTION

Open space, agricultural resources, and the natural environment are an integral part of Dixon’s sense of place. The community is surrounded by fertile agricultural land, the groundwater is abundant and high quality, and the delta breezes blow in every evening with cool, fresh air. From the origins of European settlement in the area through to the present day, Dixon’s agricultural heritage is evident in its respect for the land.

This Element addresses the natural environment in Dixon, including open space and agriculture, water resources,

and local plants and animals; conservation and stewardship, including conservation of water and energy and waste reduction; and community resilience, which includes sections dealing with hazards and safety, climate change, and emergency preparedness and with pollution and environmental justice. Where topics, policies, and actions from other chapters overlap with Natural Resources and Open Space, references to those chapters are noted.

2.2 NATURAL RESOURCES IN DIXON

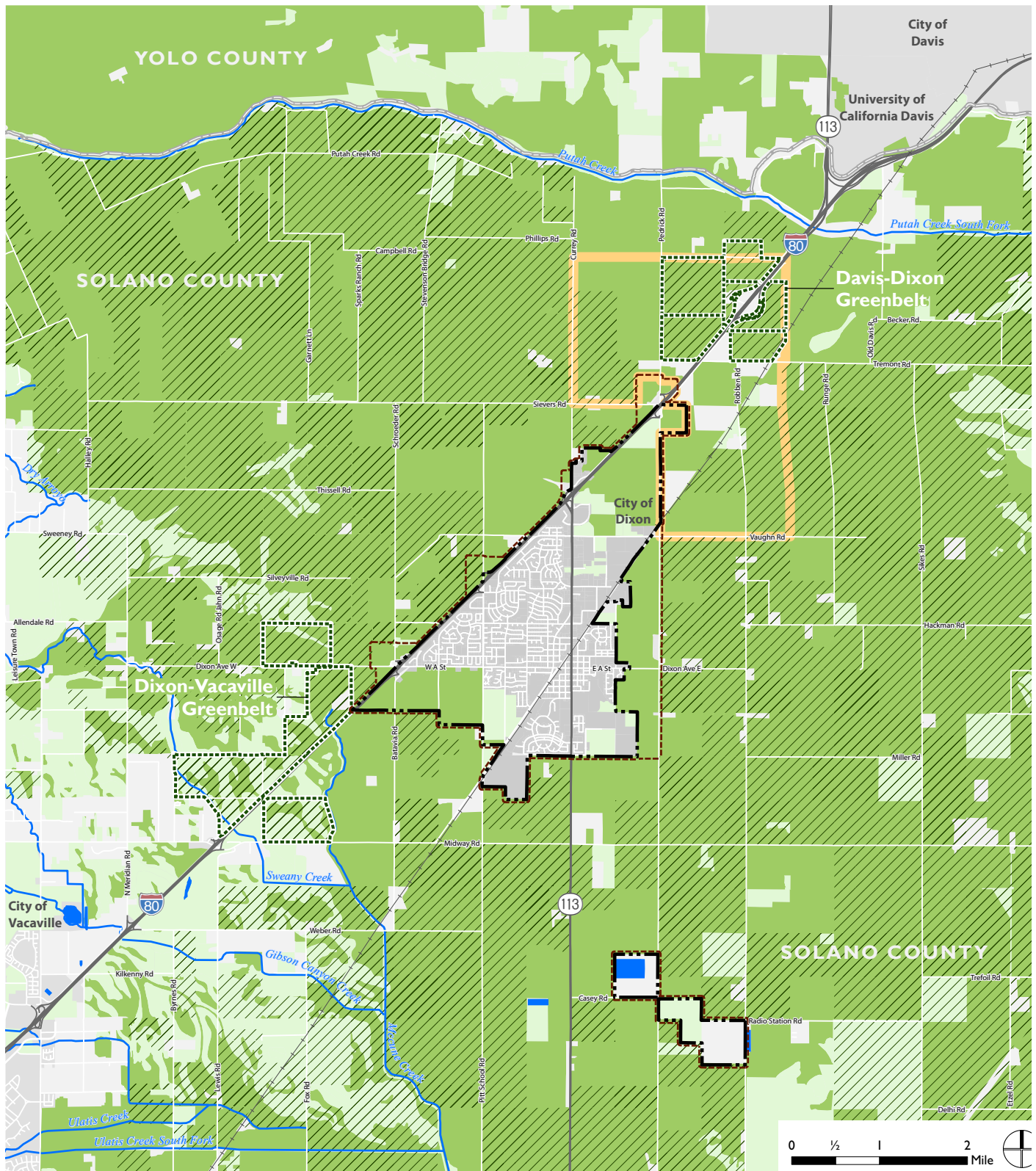
AGRICULTURAL LAND AND NATURAL OPEN SPACE CONSERVATION

Western-style farming began in today’s Dixon in the mid-1880s with subsistence farming and raising livestock. Early farmers and ranchers settled in the fertile lands around Dixon, and by 1900, had made a name for Dixon as “Dairy City.” Dixon’s strong agricultural heritage continues to this day, with cattle and

sheep still numbering among Solano County’s top ten crops by value. The area’s most valuable other crops include walnuts, nursery products, almonds, tomatoes, alfalfa, grapes, sunflowers, and wheat, many of which can be seen growing in the fields right next to Dixon’s homes and businesses.



Figure NE-1 Open Space and Agricultural Land



Data Source: Solano Transportation Authority, 2016; CA Department of Conservation, FMMP, 2016; Solano County GIS, 2019; City of Dixon, 2019; Dyett & Bhatia, 2017

- Greenbelt
- Priority Conservation Area (PCA)
- Williamson Act Parcel
- Prime Farmland
- Other Farmland
- Water
- Railroad
- Dixon City Limit
- Sphere of Influence
- County Boundary

Today, Dixon is a community ringed by protected open space, primarily land in active agricultural production. Solano County has over 200 square miles of prime farmland, classified by the California Department of Conservation's Farmland Mapping and Monitoring Program as having the best combination of characteristics for crop production. These lands can produce high-yield crops due to excellent soil quality, lengthy growing season, and dependable irrigation. Other nearby farmlands have some of these characteristics, and sustain fruit trees, crops, or livestock. As shown in Figure NE-1, any of the Dixon area's agricultural lands are protected by the California Land Conservation Act of 1965, otherwise known as the Williamson Act, which aims to discourage the unnecessary and premature conversion of farmland to other land uses. The Williamson Act gives tax incentives to landowners who agree to maintain agricultural uses on their land for period of ten years, with automatic renewal.

Hundreds of acres of agricultural land around Dixon have been additionally preserved as farmland through greenbelts, innovative conservation strategies which use easements to protect farmland. The land is purchased, has agricultural easements applied, and is then resold to farmers, maintaining the easements and preserving the agricultural use in perpetuity. The Vacaville-Dixon Greenbelt, which the City of Dixon purchased in partnership with the City of Vacaville in 1996, contains 1,003 acres of agricultural lands. In 2005, the City of Dixon partnered with the City of Davis, UC Davis, California Department of Conservation, and the U.S. Department of Agriculture's Natural Resource Conservation Service to begin purchasing land for the Davis-Dixon Greenbelt, which currently contains over 400 acres of farmland, and is managed by the Solano Land Trust. Conserving these important agricultural resources is critical for maintaining Dixon's agricultural character, and for contributing to air and water quality, local habitat, economic sustainability, and quality of life.



WATER RESOURCES

Surface water resources in and near Dixon include vernal pools, irrigation and drainage canals, and local detention ponds. Vernal pools are formed by winter and spring rainwater, and last for only a few months. Irrigation ditches and canals flow through the lands around Dixon: the Dixon Resource Conservation District, established in 1952, restructured naturally-occurring creeks and regional drainage paths into a 70-mile system of ditches and canals known as the Dixon Drain. Originally constructed to manage winter rainwaters, the Drain now also collects irrigation tailwater year-round; run-off waters drain to Ulatis Creek and Hass Slough, eventually entering the Sacramento River Delta and flowing into Suisun Bay and San Francisco Bay. Dixon's Ponds A, B, and C, south of the City, retain water to help to prevent flooding, are planted with native vegetation to filter water, and allow water infiltration into the ground. *(See Chapter 6: Public Services and Facilities for a discussion of water supply, stormwater management, and drainage.)* These water resources are subject to

California laws that require surface waters be used beneficially (including for municipal or domestic supply, fishing, groundwater recharge, habitat, recreation, or agriculture), and require water management practices that ensure that water is not wasted.

Dixon's groundwater is part of the Sacramento Valley – Solano Subbasin, which is roughly bounded by Putah Creek to the north, Davis and Fairfield to the east and west, and the San Joaquin River near Pittsburg to the south. Without proper management, groundwater basins can be overdrawn, leading to less storage capacity, poor water quality, less overall available water, and even ground subsidence, in which less water in the ground causes soil to compact and sink, cracking infrastructure and destabilizing buildings. Groundwater levels can also be impacted by urban places that contain extensive impermeable surfaces like asphalt and concrete, which restrict water infiltration into the soil. California's groundwater is regulated under the 2014

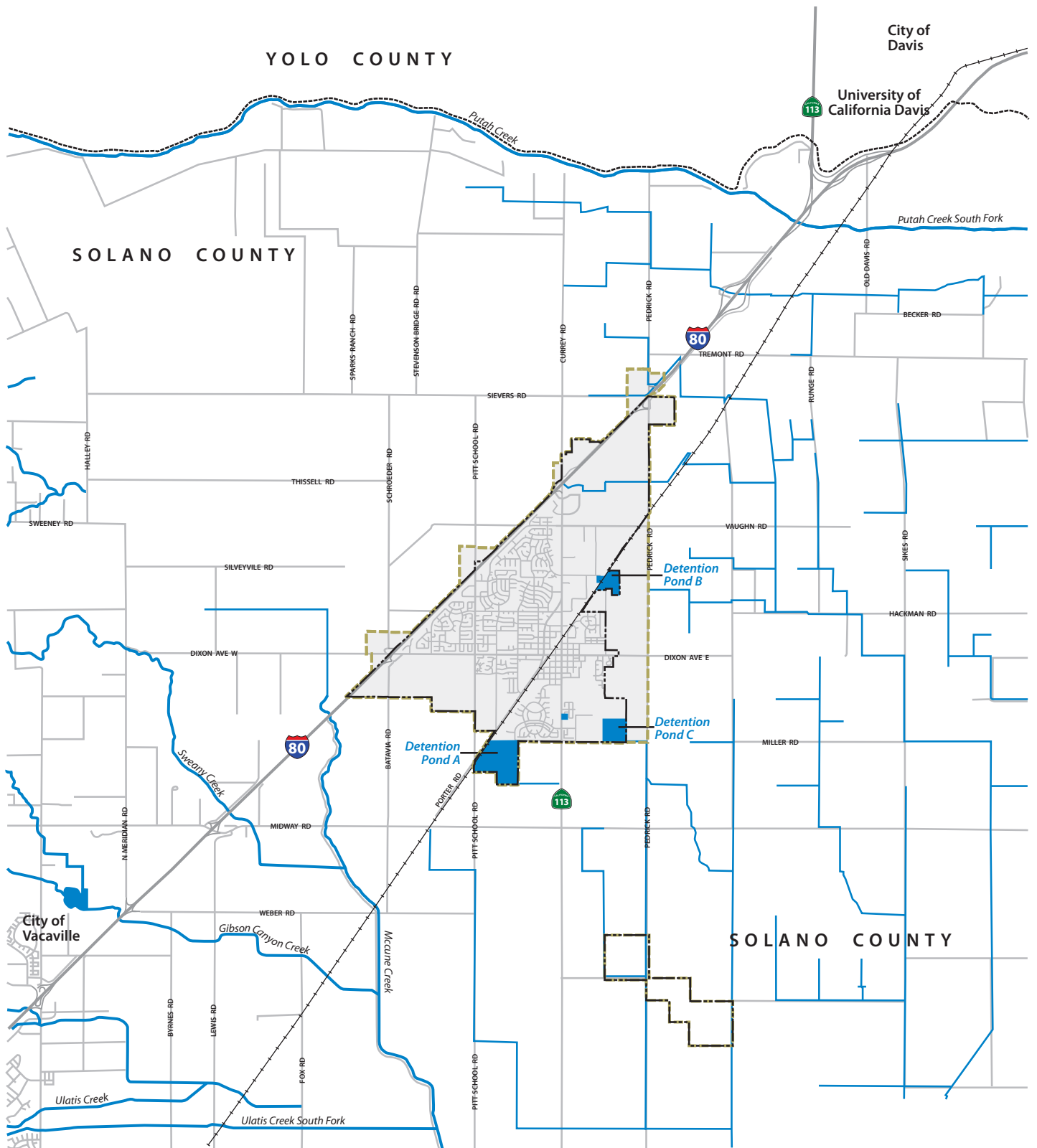
VERNAL POOLS



Photo by Bobby Vogt.

Situated in the gently rolling topography of the Central Valley, the claypan soils around Dixon create naturally-occurring vernal pools each spring: temporary lakes and ponds that form when impermeable soils trap rainwater aboveground. These vernal pools provide critical habitat to hundreds of local species. In 1987, the National Park Service designated the Dixon Vernal Pools, centered about ten miles south of the City, as a National Natural Landmark: the best example of valley needlegrass grassland and a critically rare natural community type.

Figure NE-2 Water Resources



Source: Solano County, 2019; Department of Fish and Wildlife, 2019; City of Dixon, 2019; Dyett & Bhatia, 2019.



- Detention Basin
- Creeks/Canals
- Dixon City Limit
- Sphere of Influence
- County
- Railroad



A northern shoveler duck. Photo by Bobby Vogt.

Sustainable Groundwater Management Act (SGMA); based on high expected population growth, groundwater reliance, number of active wells, and possibility of overdraft and ground subsidence, the Solano Subbasin is currently designated as a medium-priority basin. Solano County Water Agency monitors the Subbasin's water levels, and has seen stable groundwater levels since the Monticello Dam's construction in the late 1950s ensured a year-round site for groundwater infiltration.

The Solano Subbasin water provides all of the City of Dixon's municipal water supply, pumped up from five wells. The Subbasin also provides the irrigation

water for Solano County's agriculture; exactly how much of the Subbasin water is used for irrigation is not known. Per the requirements of the SGMA, local water sustainability agencies are now working on plans to measure and more closely monitor groundwater use, and to ensure that they are drawn from sustainably. The City of Dixon participates in the Solano Basin Groundwater Sustainability Agency, which is currently developing the Solano Basin Groundwater Sustainability Plan, required to be complete by January 31, 2022. For discussion on water supply, refer to page 6-8, Section 6.3, Adequate Public Services, of the Public Services and Facilities Element.

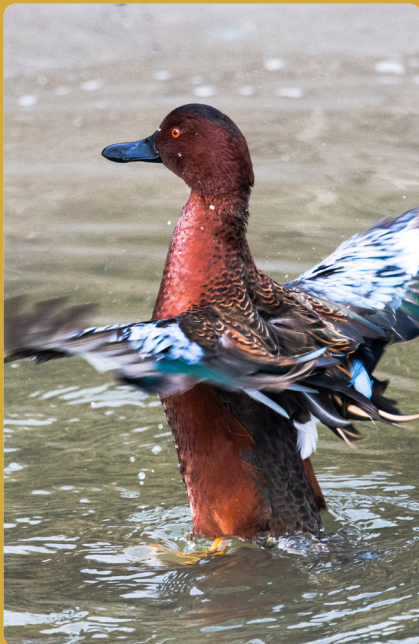
LOCAL PLANTS AND ANIMALS

Dixon is located within the Pacific Flyway, a major migratory route for birds, with millions of ducks and geese flying through the area each year. As shown in Figure NE-3, Dixon is also home to several native species of plants and animals that are classified by the Environmental Protection Agency or by the California Department of Fish and Wildlife as rare or

threatened, called special-status species. The adobe-lily, a rare pink wildflower that blooms in early spring, has been found around downtown Dixon. The burrowing owl, a yellow-eyed diurnal owl about the size of a robin, has had rapidly declining populations throughout California in the past few decades, but has been spotted burrowing in and around the planning

area. Swainson's Hawk, a mid-sized raptor listed as Threatened by the State of California, typically eats insects and small rodents from grasslands and fields; while they have declined in their typical nesting areas in California, Swainson's hawks have been seen throughout the planning area. The valley elderberry longhorn beetle, which depends on riparian elderberry plants for food, and the vernal pool fairy shrimp, a tiny, almost transparent shrimp with eggs that lie dormant until vernal pools return the next spring, are both federally listed as Threatened and live in and around the planning area. Several other rare, threatened, or endangered species have been seen near Dixon, Davis, or Vacaville, and may occur within the planning area: plants, including alkali milk-vetch, California alkalai grass, Baker's navarretia, Ferris' milk-vetch, legenera, and two-fork clover; shrimp, including

California linderiella, vernal pool tadpole shrimp, and midvalley fairy shrimp; insects, including Sacramento Valley tiger beetle, western bumblebee, Antioch multilid wasps, and Croth bumblebee; and animals, including the western snowy plover, American badger, tricolored blackbirds, grasshopper sparrows, giant garter snakes, hoary bat, the pallid bat, the silver-haired bat, the western pond turtle, western yellow-billed cuckoo, and white-tailed kite. As development occurs, these important local flora and fauna can be disturbed and displaced. Regulations and protections from the California Department of Fish and Wildlife, the California Wildlife Conservation Board, and this General Plan guide new development to ensure that local plants and animals continue to flourish around Dixon.

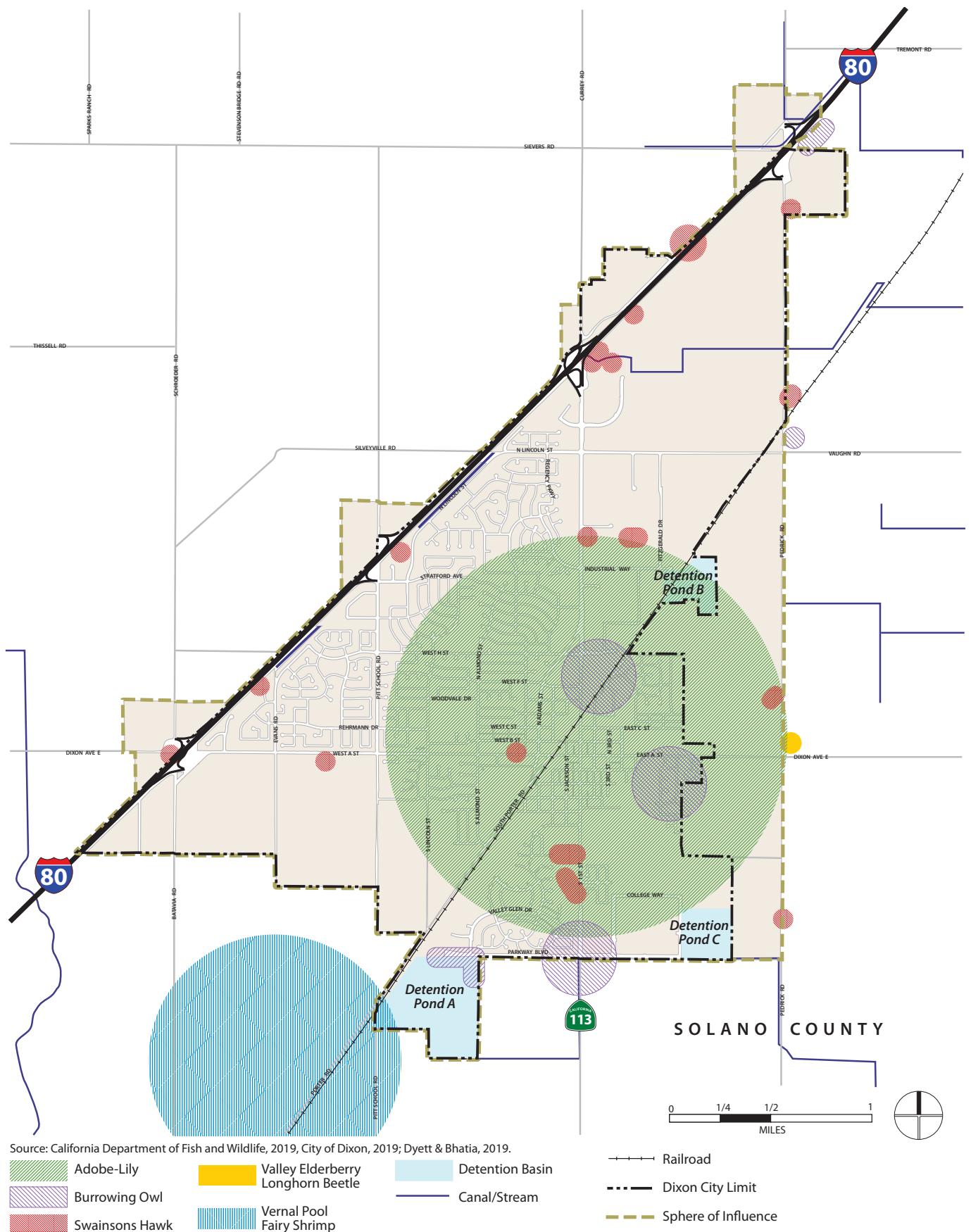


A cinnamon teal. Photo by Bobby Vogt.

THE PACIFIC FLYWAY

Dixon sits within the Pacific Flyway migratory route. At least a billion birds migrate along the Pacific Flyway each year, including snow geese, pintail ducks, coots, curlews, ibis, teals, and sandhill cranes. The Sacramento Valley hosts an estimated 44 percent of waterfowl using the Pacific Flyway; more than 1.5 million ducks and 750,000 geese show up in the winter months. The birds fly down from Alaska, Canada, and even Siberia for California's mild winter climates. They depend on wetlands for food and habitat as they pass through the area, flocking to protected local marshes, tidal waterways, and flooded rice fields.

Figure NE-3 Special Status Species Occurrence in Dixon



The area of occurrence indicates an area in which a species has been known to occur.

Disclaimer: Information presented in this map is based on data from CNDDDB version 08/2019. Areas of occurrence on this map represent areas in which known locations of the species have been found as of the date of this version. There may be additional occurrences of additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDDB about a species or an area can never be used as proof that no special status species occur in an area.



Table NE-1: Rare Plants and Animals Found In and Around Dixon

Species	Common Name	Federal Status	California Status
Fritillaria pluriflora	Adobe-lily	None	None
Athene cucularia	Burrowing owl	None	None
Buteo swainsoni	Swainson's hawk	None	Threatened
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	Threatened	None
Branchinecta lynchi	Vernal pool fairy shrimp	Threatened	None

Source: California Natural Diversity Database (CNDDB), 2019.

Trees in parks, along streets, and on private property throughout Dixon comprise a local tree canopy that plays a vital role in the health of the natural environment, regulating temperature, improving air quality, and managing rainwater. They also provide habitat for both native and migratory birds. Most homes in Dixon have at least one tree on the property; many have several. Dixon's parks, including Hall Memorial Park, Northwest Park, and the Women's Improvement Club Park, have dense, mature tree canopies that benefit the whole city. And the City of Dixon, as part of the Dixon Lighting and Landscaping District, maintains over 1,600 street trees. About three quarters of these trees, however, are of just five species: crepe myrtle, redwood, sycamore, Chanticleer pear, and non-fruiting plum. Dixon's 2012 Urban Forest Master Plan (UFMP) calls for diversifying the street trees to include a wider variety of species; the City's recommended street tree list contains a

variety of species well-adapted to local conditions, including hawthorn, maple, hornbeam, ash, oak, ginkgo, and linden trees. Beautiful specimens of these tree types exist throughout Dixon, and the UFMP contains actions and policies that prioritize planting more trees of various species. The City Engineer of the Public Works Department plants, maintains, and regulates street trees within Dixon; regular maintenance and care preserves existing trees and helps critical new trees develop strong roots for long lives. As established by the UFMP, tree planting in new developments should be approved by the Public Works Administrator to ensure that enough trees of enough different species will be planted. Expanding and protecting the tree canopy throughout the City with well-suited, drought-tolerant trees, planted and cared for by the City and by local residents, makes Dixon more hospitable for humans and animals alike.



GOAL NE-1: Preserve, protect, and enhance natural resources, habitats, and watersheds in Dixon and the surrounding area, promoting responsible management practices.

AGRICULTURAL LAND AND NATURAL OPEN SPACE CONSERVATION

POLICIES

- NE-1.1** Preserve the natural open space and agricultural lands that surround Dixon through continued leadership in cross-jurisdictional conservation initiatives such as the Vacaville-Dixon Greenbelt and the Davis-Dixon greenbelt.
- NE-1.2** Support regional efforts to place additional land under permanent conservation easements and continue to use the Agricultural Land Mitigation Fund to collect development impact fees for the purpose of funding greenbelt expansion.
- NE-1.3** Encourage open space preservation through easements, open space designation, or dedication of lands for the purpose of connecting conservation areas, protecting biodiversity, accommodating wildlife movement, and sustaining ecosystems.
- NE-1.4** Prior to annexing land into the city or expanding the SOI, continue to require agricultural mitigation consistent with the Solano County Local Agency Formation Commission’s Standards and Procedures when agricultural lands would be converted to nonagricultural purposes.
- NE-1.5** Continue to allow agriculture as an interim use on land within the City that is designated for future urban use.

ACTIONS

- NE-1.A** Adopt a Right to Farm ordinance that protects the rights of agricultural operations in areas adjacent to the City to continue operations and seeks to minimize conflicts with adjacent urban uses in Dixon



NE-1.B Support the establishment of projects to teach Dixon residents about the agricultural industry and to provide a forum for dialogue between Dixon residents and farmers. Incorporate hands-on learning opportunities that present information in a manner that will increase interest in agriculture and the natural environment.

NE-1.C Collaborate with landowners, neighbors, the school district, and others, to create a program that establishes and maintains landscaping, school gardens, or community gardens on vacant or idle sites within the City.

(Policies and actions related to growth management and compact development in the Land Use and Community Character Element also offer co-benefits for open space agricultural land conservation).

WATER RESOURCES

POLICIES

NE-1.6 Recognize the Sacramento Valley - Solano Groundwater Subbasin as a critical resource for Dixon and proactively promote sustainable groundwater management practices.

NE-1.7 Continue to work with the Solano Subbasin Groundwater Sustainability Agency Collaborative to develop and implement strategies for the long-term health and viability of the Solano Groundwater Subbasin.

NE-1.8 Facilitate groundwater recharge in Dixon by encouraging development projects to use Low-Impact Development (LID) practices such as bioretention, porous paving, and green roofs, and by encouraging private property owners to design or retrofit landscaped or impervious areas to better capture storm water runoff.

NE-1.9 Ensure that drainage ditches which discharge directly to or are located within open space lands are regularly repaired and maintained.



ACTIONS

- NE-1.D** Pursue funding from the Sustainable Groundwater Management Grant Program and other sources for investments in groundwater recharge and implementation of the Solano Basin Groundwater Sustainability Plan.

(Policies and actions related to stormwater management in the Public Facilities and Services Element also offer co-benefits for groundwater recharge and conservation).

WILDLIFE AND HABITATS

POLICIES

- NE-1.10** Support regional habitat conservation efforts, including implementation of the Solano Countywide Multispecies Habitat Conservation Plan.
- NE-1.11** Ensure that adverse impacts on sensitive biological resources, including special-status species, sensitive natural communities, sensitive habitat, and wetlands are avoided or mitigated to the greatest extent feasible as development takes place.
- NE-1.12** In areas where development (including trails or other improvements) has the potential for adverse effects on special-status species, require project proponents to submit a study conducted by a qualified professional that identifies the presence or absence of special-status species at the proposed development site. If special-status species are determined by the City to be present, require incorporation of appropriate mitigation measures as part of the proposed development prior to final approval.
- NE-1.13** Protect the nests of raptors and other birds when in active use, as required by State and federal regulations. In new development, avoid disturbance to and loss of bird nests in active use by scheduling vegetation removal and new construction during the non-nesting season or by conducting a pre-construction survey by a qualified biologist to confirm nests are absent or to define appropriate buffers until any young have successfully fledged the nest.



- NE-1.14** Recognize the importance of the urban forest to the natural environment in Dixon and expand the tree canopy on public and private property throughout the community.
- NE-1.15** Enhance tree health and the appearance of streets and other public spaces through regular maintenance as well as tree and landscape planting and care of the existing canopy.
- NE-1.16** Minimize removal of, and damage to, trees due to construction-related activities and continue to require replacement of trees, including street trees lost to new development.
- NE-1.17** Require new development to provide and maintain street trees suitable to local climatic conditions.

ACTIONS

- NE-1.E** Maintain a list of tree species well-adapted to local conditions and provide this information to local property owners, businesses, and developers. Periodically evaluate the need to update the list.
- NE-1.F** Explore establishing a tree planting and maintenance program in partnership with local community groups or non-profit organizations.
- NE-1.G** Provide on-going education for local residents, businesses, and developers regarding landscape, maintenance and irrigation practices that protect the urban forest and wildlife species.



2.3 ENERGY AND WATER CONSERVATION

Water is a precious resource, particularly in the Central Valley where groundwater overdrought and rising average annual daily temperatures are increasingly straining availability. Energy too is indispensable to our daily lives and our energy choices impact the natural systems around us in many ways. Responsible management of energy and water will be critical if Dixon is to thrive. Individual residents, businesses, and developers all have a role to play in the conservation of local resources.

In Dixon's hot climate and rainless summers, using low-water plants throughout the city can save thousands of gallons of fresh water per year and reduce demand on the groundwater. Greywater systems, which reuse water from showers, sinks, and laundry, can get multiple uses out of a single gallon of water, and are becoming more common in both new multi-family buildings and as retrofits in single family homes. Rainwater harvesting can save water for a rainless day: barrel storage can keep water ready for landscaping irrigation in the dry summer months, and can also help residents be prepared for emergencies. And making

sure that water can infiltrate into the aquifer keeps the groundwater supply abundant: as water seeps into the ground, it gets filtered by soils and rock, and gets naturally stored underground until the city pulls it up as drinking water. CalWater and the City of Dixon are responsible for encouraging water conservation within Dixon. This Plan also includes several policies to encourage sustainable low impact development measures for capturing and treating stormwater on-site, for promoting rainwater reuse and low-pesticide practices in landscaping, and for promoting use of greywater, rainwater, and recycled water throughout Dixon.

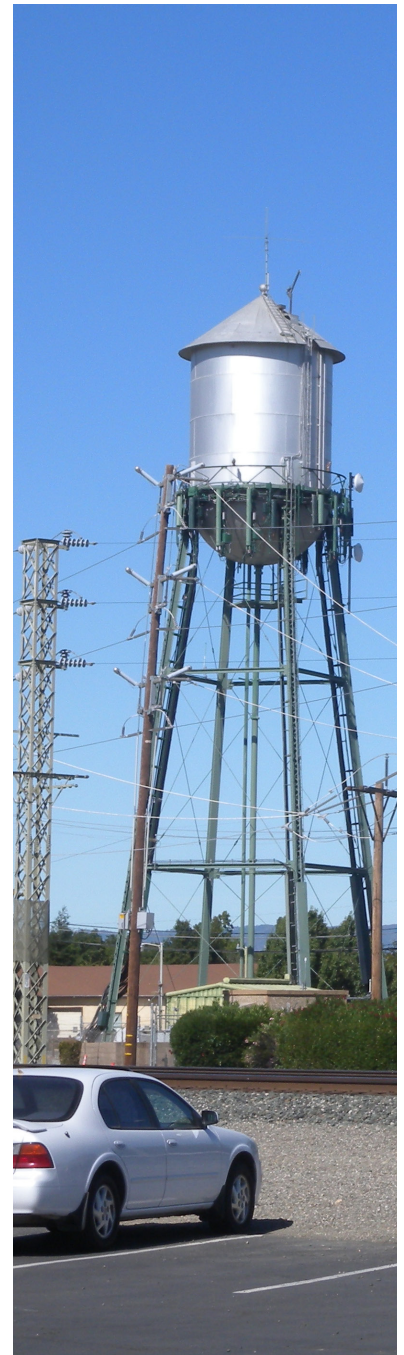
Residents and businesses can save energy and money by installing energy efficient upgrades – there are many local, state-wide, and PG&E programs to help defray costs. Higher efficiency heating and cooling systems, building insulation, hot water systems, duct sealing, efficient windows, and many other improvements are eligible for rebates through various state and local agencies. Policies within the new General Plan will help Dixon residents access these programs, reducing the City's overall energy consumption.



GOAL NE-2: Use energy and water wisely and promote reduced consumption.

POLICIES

- NE-2.1** Promote energy conservation throughout the community and encourage the use of renewable energy systems to supplement or replace traditional building energy systems.
- NE-2.2** Implement energy and water conservation measures in City facilities and operations.
- NE-2.3** Participate in regional energy efficiency financing programs such as low-interest revolving loan funds, the California Comprehensive Residential Building Retrofit Program, California First, and the Property Assessed Clean Energy (PACE) program that enable property owners to obtain low-interest financing for energy improvements.
- NE-2.4** Encourage the retention and reuse of rainwater onsite and promote the use of rain barrels or other rainwater reuse systems throughout the community.
- NE-2.5** Encourage new development to incorporate as many water-wise practices as possible in their design and construction.
- NE-2.6** Conserve water through the provision of water-efficient infrastructure, drought tolerant plantings, greywater usage to support public parks and landscaped areas.
- NE-2.7** Conserve water through the planting and maintenance of trees, which will provide for the capture of precipitation and runoff to recharge groundwater, in addition to providing shading for other landscaping to reduce irrigation requirements. Ensure that any 'community greening' projects utilize water-efficient landscape.



ACTIONS

- NE-2.A** Connect businesses and residents with voluntary programs that provide free or low-cost energy efficiency audits, retrofit installations, rebates, financing and contractors by publishing information on the City's website.
- NE-2.B** Explore establishing a rebate program to promote the installation of renewable energy production systems including photovoltaics and other appropriate technologies.
- NE-2.C** Continue to provide water customers with information on conservation techniques, services, devices, and rebates by publishing information on the City's website and distributing flyers.
- NE-2.D** Update the Municipal Code to allow the use of greywater and rainwater catchment systems for all structures.

2.4 WASTE REDUCTION

The California Department of Resources Recycling and Recovery (CalRecycle) estimates that residences and businesses in Dixon generate about 17,800 tons of landfill waste per year. While the community is meeting statewide targets for reducing waste, per-capita waste has

been rising over the last decade, from a low of about 3.7 pounds per person per day in 2011 to about 5.0 pounds per person per day in 2017.

Solid waste generated in Dixon goes to Hay Road Landfill, eight miles to the south. The City is getting more and more sophisticated with ways to safely divert waste from the landfill, and has added eleven new waste diversion programs since 1995. Various types of paper, including cardboard, office paper, and newspaper, are the largest waste category in Dixon after food waste, at over 2,600 tons per year, but most of this paper is currently being recycled and diverted from landfills. The city is also looking at ways to increase recycling throughout Dixon by installing more recycling receptacles in public places. Hazardous materials like fluorescent lightbulbs, pesticides, and medications, prohibited from being disposed of in trash or recycling containers since they can leech toxic chemicals into the soil and ultimately into the groundwater, are accepted at



Recology's Vacaville Household Hazardous Waste Drop Off location. Recology, which is under contract through the City, also provides curbside recycling pick-up and a recycling drop-off location at the intersection of 1st Street and C Street.

Dixon also contracts Recology to collect yard waste weekly, but doesn't currently offer food-scrap composting. Food scraps make up a large part of the waste that goes into the Hay Road Landfill: CalRecycle estimates Dixon households and businesses generate about 2,800 tons of food waste per year, which makes up about 16 percent of the landfill-bound waste stream. Composting programs could keep food scraps out of landfills and turn them into productive material that sequesters greenhouse gases and helps gardens grow, a win-win solution in an agricultural town like Dixon. There are different scales of composting – home composters can turn most fruit, vegetable, and garden scraps into rich soils, while industrial-scale composting can handle most organic materials, including meats, oils, and bones. Many California

communities are now offering industrial compost collection along with regular recycling and garbage pick-up. As part of the General Plan, the City will consider how to increase waste diversion from landfills: offering citywide composting would make composting easy and accessible for Dixon residents; the City could also help residents install their own backyard composting through incentives or equipment giveaways.

Beyond composting and recycling, reuse of goods is one of the most environmentally sound ways to keep waste out of landfills. Textiles currently make up about 5 percent of household landfill waste, but reusing them, by donating to local thrift stores or selling them at a city-wide garage sale, would divert waste and give the clothing a second life. About 14 percent of Dixon's commercial waste is some type of construction material; finding ways to reuse these materials in constructing other structures reduces both waste and costs.



GOAL NE-3: Optimize the use of available resources by encouraging residents, businesses and visitors to reuse and recycle.

POLICIES

- NE-3.1** Promote reduction of solid waste production throughout Dixon and expand the range of programs and information available to local residents and businesses.
- NE-3.2** Ensure that 75 percent of solid waste generated be reduced at source, recycled, or composted by the year 2020 and beyond, per AB 341.
- NE-3.3** Continue to promote the safe disposal of household hazardous waste through public education.
- NE-3.4** Provide information via the City’s website on curbside pick up of donations by local organizations such as Goodwill, Salvation Army, Vietnam Veterans of America, and Youth Industries.

ACTIONS

- NE-3.A** Provide recycling receptacles in parks and public spaces, in addition to trash receptacles.
- NE-3.B** Consider expanding compost collection services to residential customers in Dixon or implementing a backyard composting program for local residents.
- NE-3.C** Work with commercial and industrial generators to develop and implement a source reduction and recycling plan tailored to their individual waste streams.
- NE-3.D** Adopt a construction and demolition diversion ordinance based on the CalRecycle model ordinance to require diversion of construction and demotion debris as needed to meet State mandates.
- NE-3.E** Collaborate with Dixon homeowners associations and other community groups to establish a citywide event such as a garage sale day or goods exchange.

2.5 COMMUNITY RESILIENCE

HAZARDS

Like much of California, Dixon is located in a seismically active region. While there are no known active faults within Dixon, there are faults nearby that could subject the community to ground shaking and seismic hazards, which has periodically occurred in the past. In April 1892, a Magnitude 6.0 earthquake struck to the northwest of the city, followed by a Magnitude 5.6 quake to the southeast several days later. As shown in Figure NE-4, the Dixon area has some risk of seismic activity leading to liquefaction, during which soils behave like liquids and lose stability, which could cause catastrophic damage to buildings and infrastructure. Most of Dixon is classified as having a Moderate risk of liquefaction; however, a portion of the city is located within a High risk area and a few narrow channels of Very High susceptibility run through the planning area, likely reflecting historic filled creek beds. Earthquakes could also increase the

risk of dam failure at nearby Monticello Dam, which could result in the entire Dixon area, as well as the surrounding communities, to be inundated with water.

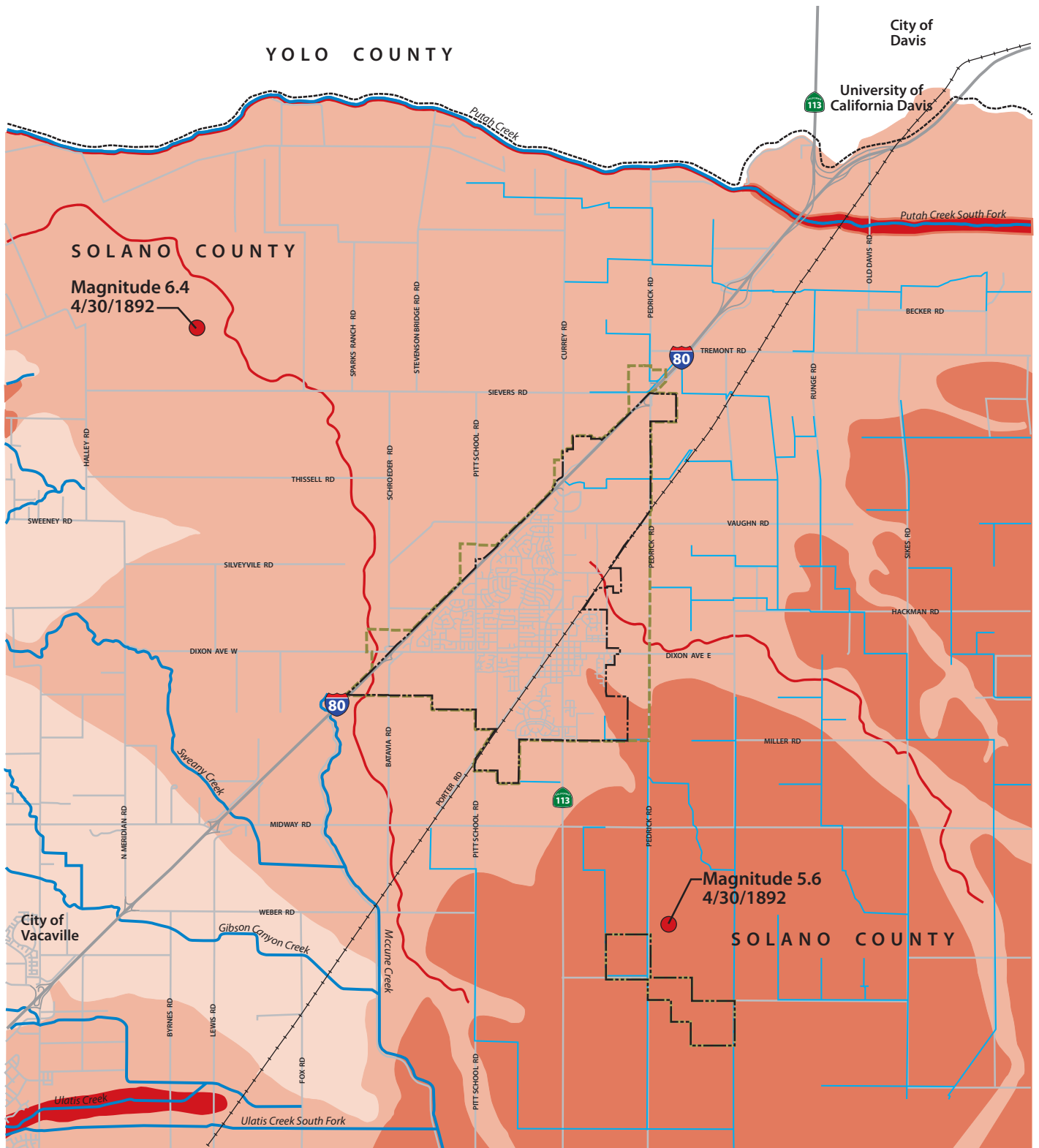
A few areas of Dixon and within the Sphere of Influence are within the Federal Emergency Management Agency (FEMA) 100-year or 500-year flood hazard zones (see Figure NE-5). These areas have a one percent or 0.2 percent chance of flooding in any given year, respectively. Most of Dixon, though, is not at a substantial risk of flooding from rain. Severe lack of rain is a bigger risk for Dixon: the City recently survived the five-year California drought from 2011 through 2016. At its peak, the city was classified as being under “exceptional drought,” which could occur again with multi-year periods of low rainfall.

Drought conditions also increase the risk of wildfires. While Dixon doesn’t have the characteristics that create a high risk of wildfires, like adjacent forests or wild lands, most of the City is classified as having a Moderate fire threat, which reflects how damaging a wildfire could be and how difficult a fire would be to control (see Figure NE-6).

Accidental or purposeful harm could also present a threat to the city. Located along major trucking routes and the railroad cargo network, Dixon could be exposed to dangerous hazardous materials if a spill or accident occurred. Terrorist incidents or wars could also threaten Dixon’s safety.



Figure NE-4 Seismic Hazards

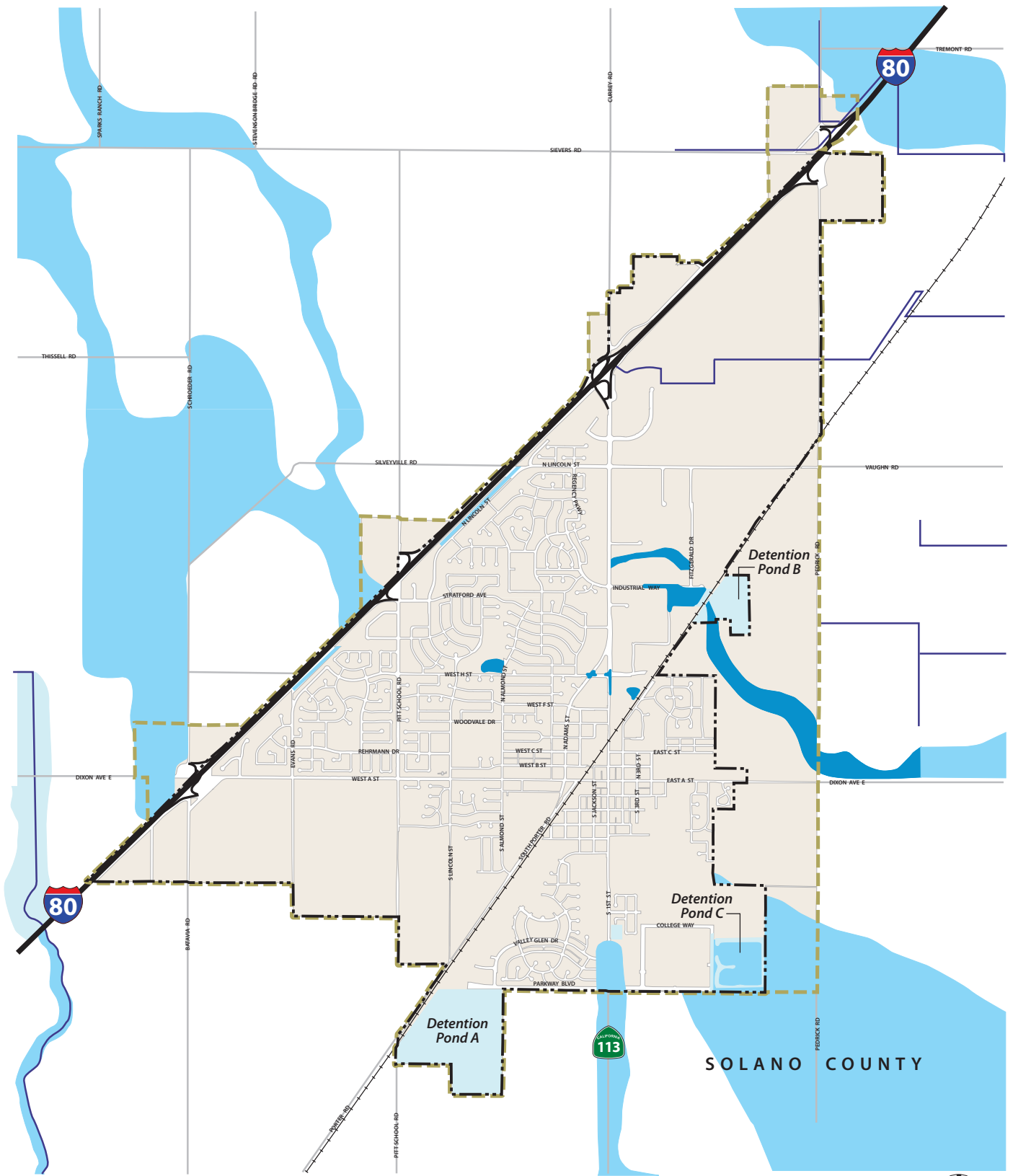


Source: ABAG, 2010; Department of Conservation, CGS; Solano County GIS, 2019; City of Dixon, 2019; Dyett & Bhatia, 2019.



- | | | |
|--|---|--|
| Liquefaction Susceptibility | | |
| Very High | Historic Earthquakes 1769-2015 | Dixon City Limit |
| High | Water | Sphere of Influence |
| Moderate | Railroad | County |
| Low | | |

Figure NE-5 Flood Hazards



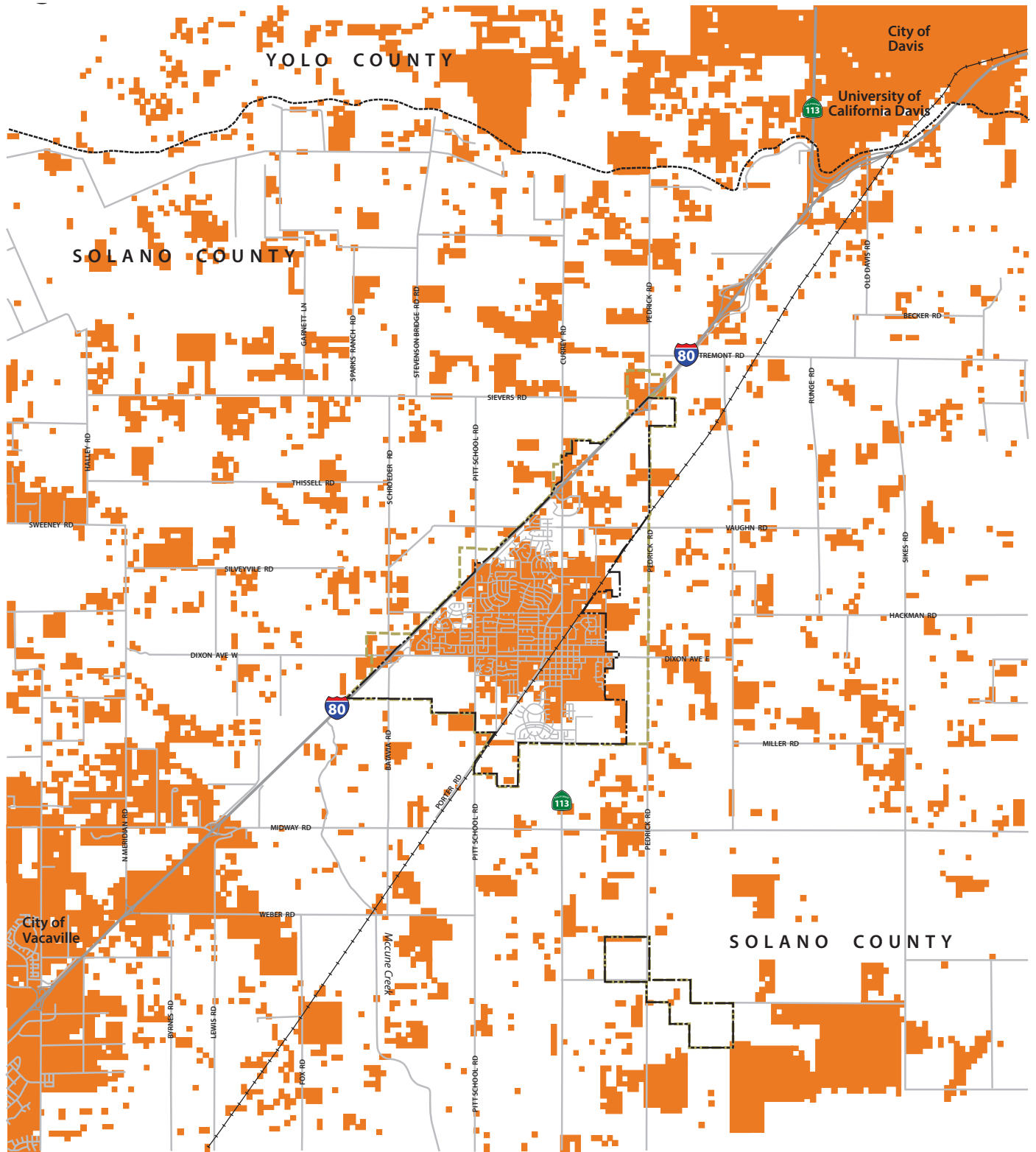
Source: FEMA, 2012, City of Dixon, 2019; Dyett & Bhatia, 2019.

- 100 Year Floodplain
- 500 Year Floodplain, 100 Year Floodplain with Water Depth less than 1 foot or 100 Year Floodplain Protected by Levees

- Detention Basin
- Canal/Stream
- Railroad
- Dixon City Limit
- Sphere of Influence



Figure NE-6 Wildfire Hazards



Source: ABAG, 2010; Department of Forestry and Fire Protection, v05 ; City of Dixon, 2019; Dyett & Bhatia, 2019.



- Fire Threat**
- Moderate
 - Railroad
 - Dixon City Limit
 - Sphere of Influence
 - County

And as the climate warms, Cal-Adapt predicts the average annual temperature to be 5 degrees hotter in Dixon between 2040 and 2060. Heat can already be dangerous in Dixon, with July temperatures often rising above 100 degrees, and hotter temperatures could present serious health risks to residents. California State law, in SB 379, requires cities to identify local risks arising from

climate change. In Dixon, which is not subject to risks from sea level rise, climate change-related risks arise mainly from increased heat and reduced rainfall, which could lead to more drought and increased fire risk. More extreme and unpredictable weather would also threaten the agricultural sector through unseasonable weather, frosts, heat, and loss of important pollinators.

EMERGENCY PREPAREDNESS

Resilient communities adequately plan for hazards and emergencies so that when situations occur, they can respond quickly and work together to get back on their feet. A resilient community knows that planning to ensure the safety of its most vulnerable members means that everyone will be safer when something happens. The City of Dixon is a signatory to the Solano County MHMP Update, which provides a blueprint for hazard mitigation planning to better protect people and property throughout the County from the effects of future natural hazard

events. The City also has an Emergency Operations Plan that covers potential threats, including a major earthquake or liquefaction, fire, flood, dam failure, hazardous materials incidents, drought, terrorist incidents, and war; the plan is managed by the Dixon Fire Department. The City's Emergency Operations Plan is based on the State of California's Standardized Emergency Management System (SEMS), and is designed to work with the rest of Solano County. If a major disaster occurs, the County will coordinate mutual aid and response.



The Dixon Fire Department also responds to life hazard situations involving flooding and other public safety risks that flooding may pose. Other emergency resources in Dixon include the Dixon Medical Center (which includes an Urgent Care Center), three hospitals within a ten-minute drive, eleven local churches, and the Dixon Senior/Multi-Use Center. The Proposed Plan helps to improve Dixon’s resilience with policies to ensure the safety of development in potentially hazardous

areas and to commit City resources to maintain and update emergency plans and operations. With continued good planning, public awareness, and collaboration with neighboring cities, Dixon can ensure its resilience.

See Chapter 4: Public Services and Facilities for more information and policies regarding police, fire, and emergency response in Dixon.

THE HEAT ISLAND EFFECT



The “heat island effect” is an urban condition that occurs because many man-made materials, like asphalt, concrete, and brick, absorb and retain more of the sun’s heat than natural elements like trees, fields, and bodies of water. This leads to urbanized areas being hotter than surrounding open space or agricultural lands, and staying hotter even after the sun goes down. Urban heat islands can exacerbate already dangerous summer temperatures and put more strain on the electricity grid through higher air conditioning use. Luckily, there are many effective strategies communities can take to reduce the heat island effect, including planting more trees in urban areas, using reflective building materials like white roofs to collect less heat, and concentrating development in already-developed areas to maintain cooling open spaces and agricultural lands.

GOAL NE-4: Protect life and property from natural and human-made hazards and provide quick, effective response to disasters and emergencies.

POLICIES

- NE-4.1** Protect life, the natural environment, and property from natural and manmade hazards due to seismic activity, hazardous material exposure, flooding, wildfire, or extreme heat events.
- NE-4.2** Ensure that structures intended for human occupancy are designed and constructed to retain their structural integrity when subjected to seismic activity, in accordance with the California Building Code.
- NE-4.3** In areas of high liquefaction risk (see Figure NE-4), require that project proponents submit geotechnical investigation reports and demonstration that project conforms to all recommended mitigation measures prior to City approval.
- NE-4.4** Collaborate with the Bureau of Reclamation, Solano Irrigation District, Solano County Water Agency and other responsible agencies to ensure the safety of the Monticello Dam.

ACTIONS

- NE-4.A** Continue to implement provisions for flood hazard reduction in Special Flood Hazard Areas in order to limit the potential for adverse effects on public health, safety, and general welfare.
- NE-4.B** Assess the feasibility of implementing urban heat island mitigation technologies, including UV-reflective materials and coatings, porous pavement, or other technologies that can reduce surface and air temperature and mitigate for the effects of extreme heat.

(Policies and actions related to the urban forest canopy under Goal NE-1 also offer co-benefits for mitigating the adverse effects of extreme heat. Policies and actions related to stormwater management in the Public Facilities and Services Element also offer co-benefits for flood risk mitigation).

EMERGENCY RESPONSE

POLICIES

- NE-4.5** Continue to maintain an Emergency Operations Plan to effectively prepare for, respond to, recover from, and mitigate the effects of natural or human caused disasters that require the planned, coordinated response of multiple agencies or jurisdictions.

- NE-4.6** Locate critical facilities, such as hospitals and health care facilities, emergency shelters, fire stations, police stations, emergency command centers, and other emergency service facilities and utilities so as to minimize exposure to flooding, seismic, geologic, wildfire, and other hazards.
- NE-4.7** Increase public awareness of City and County emergency preparedness programs and resources.
- NE-4.8** Continue to expand capacity to deliver emergency services to Dixon residents, ensuring that first responders have sufficient resources, staffing, and equipment to mitigate hazards.

ACTIONS

- NE-4.C** Establish a Community Emergency Response Team (CERT) program to educate volunteers about disaster preparedness and train them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations.
- NE-4.D** Annually review and revise the City’s Emergency Operations Plan (EOP) as needed, and assess the need for modifications following post-incident analyses, post-exercise critiques, and changes in policy.
- NE-4.E** Continue participation on the Solano County Hazardous Materials Response Team and provide initial and ongoing training for first responders, such as training in hazardous materials incident response and management.

2.6 ENVIRONMENTAL PROTECTION

AIR, SOIL, AND WATER QUALITY

Indicators of environmental risk come from both point and non-point source pollutants. Point source pollution, which comes from a traceable point, like factory smokestacks or leaking chemical tanks, and non-point source pollution, which is not traceable to a single point and can include pollutants like car exhaust and agricultural runoff, can both affect environmental health. The steady stream of cars and trucks passing through on Highway I-80 and SR-113 are some of Dixon’s biggest sources of non-point source pollution, generating air, noise, and water pollution. CalEnviroscreen, a mapping tool that identifies communities

affected by different pollution sources, rates the census tract north of H Street in the highest quartile for exposure to traffic-related environmental pollution from exposure to particulate matter from the I-80 freeway and Highway 113. Highway pollution, which affects air, soil, and water, contains toxic chemicals, particulate matter, and carcinogens. Other non-point source air and noise pollution comes from seasonal use of agricultural equipment and aircraft flying over from nearby Travis Air Force Base. *(See also Goal M-6 in Chapter 5, Mobility for policies and actions related to safe and efficient goods movement.)*

Where schools or residential uses are near sources of pollution, people may be at higher risk of exposure to unsafe environments, but city policies can help prevent pollution through a variety of strategies. Buffers, such as trees or non-sensitive land uses like commercial buildings, can create safe distances between people and pollutant sources. Collaboration with appropriate regional agencies, including the State Water Resources Control Board, and the Regional Water Quality Control Board, which manage water pollution, and the Yolo-Solano Air Quality Management District, which regulates air pollution and provides funding and support

for air quality improvements, ensure that regional and State environmental standards are met. Goal M-6 in the Mobility Element is to “Provide for safe, efficient goods movement by road and rail.” Under Goal M-6, Policy M-6.1 is to “Maintain designated truck routes within Dixon and regulate truck traffic to allow for both economic development and a high quality of life in residential neighborhoods.” Furthermore, Action M-6.A is to “Work with Caltrans to study options for re-routing SR 113 away from Downtown Dixon.” (*See Goal M-6 in Chapter 5: Mobility for policies and actions related to safe and efficient goods movement.*)

HAZARDOUS MATERIALS

Some hazardous materials found in, around, or passing through Dixon could pollute the air, soil, and water. Pesticides used on nearby agricultural lands or in local landscaping run off into water, and can impact the soils and groundwater; CalEnviroScreen ranks all four of Dixon’s census tracts in the highest quarter of the state for risk of exposure to pesticides. Point sources of pollution in Dixon include some contaminated sites within the city, such as gas stations with leaking storage tanks, fertilizer shops, and former trucking sites, all of which can release chemicals into the soil, water, and air. Several existing contaminated sites are located in the area; due to the number of

underground cleanup sites, including gas station fuel tanks, solvents, heavy metals, and pesticides, CalEnviroScreen ranks the census tract that contains downtown Dixon in the 91st percentile for risk of groundwater contamination. The Dixon area also has 33 plugged and abandoned oil wells, which could also impact groundwater and soils. Sites with any contamination are required to undergo remediation before any development occurs on them to protect future occupants. State and regional standards, as well as policies within this General Plan, can help to minimize the community’s exposure to hazardous materials.



NOISE

Noise is a sound which is unhealthy or unwanted. It can be a human-caused public health hazard which includes excessive, intrusive, or objectionable noises that disrupt daily life. Noise has been tied to physiological effects ranging from hearing loss, high blood pressure, and sleep disturbance, to communication interference and general interruption and annoyance of normal daily activities.

The following noise measurement scales are used to describe noise in a particular location:

Frequency. Frequency is the composition or spectrum of the sound. Frequency is a measure of the pressure fluctuations per second of a sound wave.

Level. The decibel (dB) system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10 dB increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Decibel measurement may also be “A-weighted” to de-emphasize the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear in a manner that correlates well with subjective reactions to noise. Ambient sounds generally range from 30 A-weighted decibels (dBA) (very quiet) to 100 dBA (very loud).

Variation. Variation is the sound level over time. Predominant rating scales for human communities in the State of California are Equivalent Noise Level (Leq) and the Community Noise Equivalent Level (CNEL) or the

day-night average level (Ldn) based on A-weighted decibels. CNEL is the time-varying noise over a 24-hour period, with a 5-dBA weighting factor applied to the hourly Leq for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). Ldn is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and Ldn are within 1 dBA of each other and are normally interchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

Dixon is an urbanized area with open space and agricultural uses. The major sources of noise in the city include vehicle traffic along roadways; agricultural, industrial, and commercial processes; and residential noises, such as people talking, sporting events in parks, and vocalizations from domesticated animals.



Vehicular traffic, including automobile and truck traffic, is the predominant noise source within the city. The level of vehicular traffic noise varies with many factors, including traffic volume, vehicle mix (including percentage of trucks), traffic speed, and distance from the roadway. Interstate 80, State Route 113, and city streets contribute to the noise environment of the city. Figure NE-6 shows the contours of existing noise levels (2019) along roadways in the Planning Area, and Figure NE-7 shows projected noise level contours at buildout of General Plan land uses in 2040.

The noise impacts associated with rail activities depend on a number of factors, including the type of train, the length of train, the use of a horn, the physical track conditions, the geometry and intervening structures between the rail line and its receptor, the number of trains operating, and the speed of the train. Rail operations contribute to the noise environment in the city. The Union Pacific Railroad and Amtrak Capital Corridor railroad pass through but do not stop in Dixon, paralleling South Porter Road through the length of the city. These trains generate high noise levels when passing through the city.

Agricultural activities in the Planning Area can be sources of intermittent noise. For example, high noise levels are generated by wind machines used for agriculture in the early spring, with noise levels of approximately 90 dBA at nearby residential receptors. Commercial-industrial and light-industrial land uses in the city have the potential to generate high noise levels and impact surrounding land uses with their equipment operation. Noise sources from these land uses include: air conditioning or refrigeration

units, power tools, lawn equipment, generators, and other powered mechanical equipment.

Other sources of noise can include construction and the use of portable or small-scale pieces of equipment. Construction can be a substantial, though short-term, source of noise, and is most disruptive when it takes place near sensitive uses or during night or early morning hours. Power equipment, such as leaf blowers and drills, can produce high noise levels at the location of work. Other amplified sounds, such as audio equipment at either a sanctioned event or residential property, can also create noise exposure.

Land uses have different levels of compatibility relative to noise, and the State of California mandates that general plans include noise level compatibility standards for the development of land as a function of a range of noise exposure values. Table NE-2 identifies noise level compatibility standards and interior noise standards.

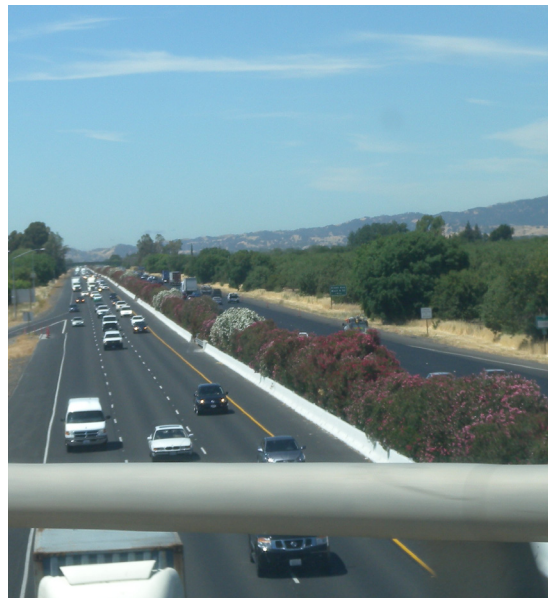
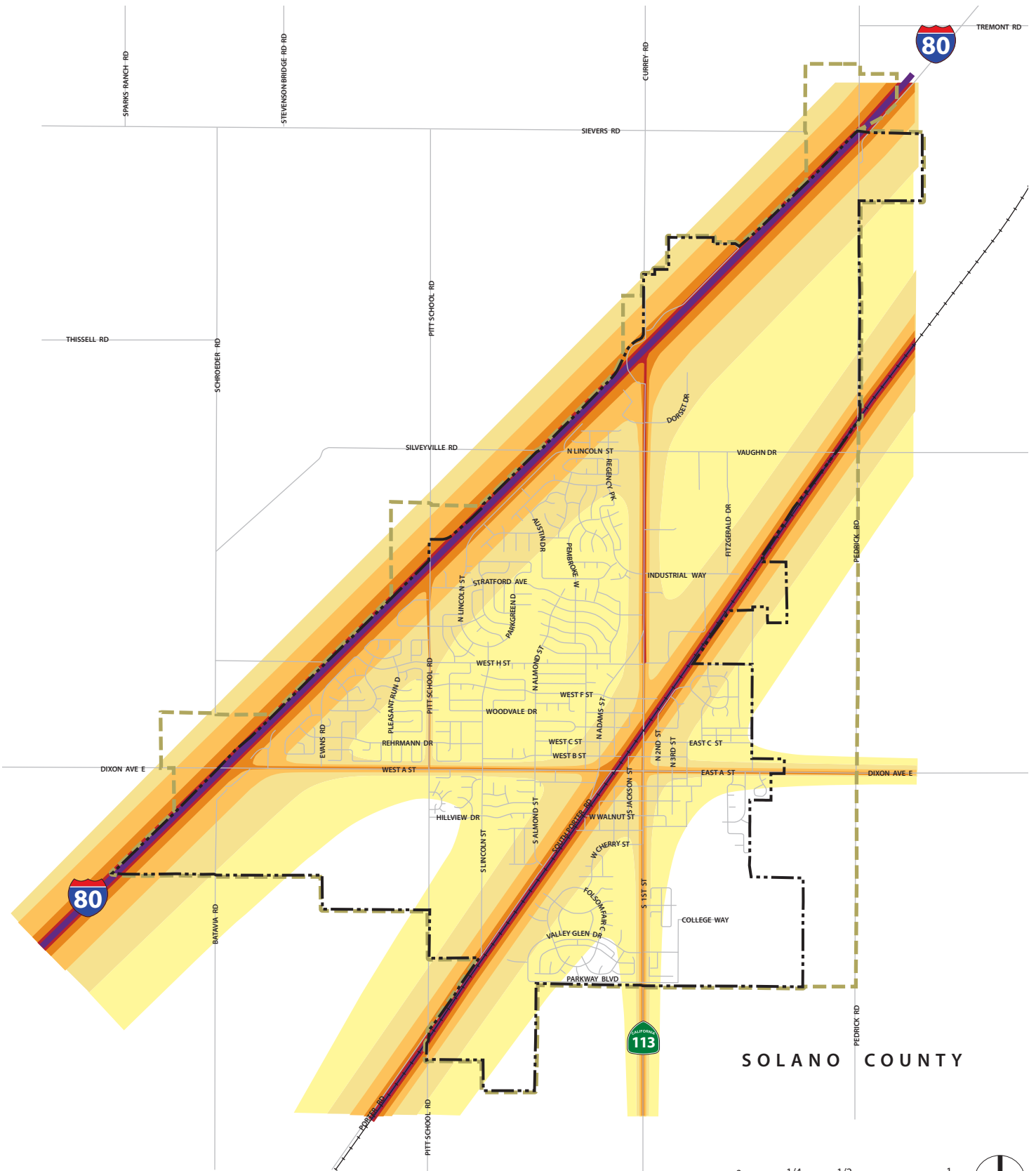


Figure NE-7 Existing Noise Contours (2019)



Source: CM Salter Associates, 2019, City of Dixon, 2019; Dyett & Bhatia, 2019.

Dixon Existing Noise Contours

- | | |
|---|---|
|  DNL 55 to 60 dB |  DNL 70 to 75 dB |
|  DNL 60 to 65 dB |  DNL 75 to 80 dB |
|  DNL 65 to 70 dB |  >DNL 80 dB |




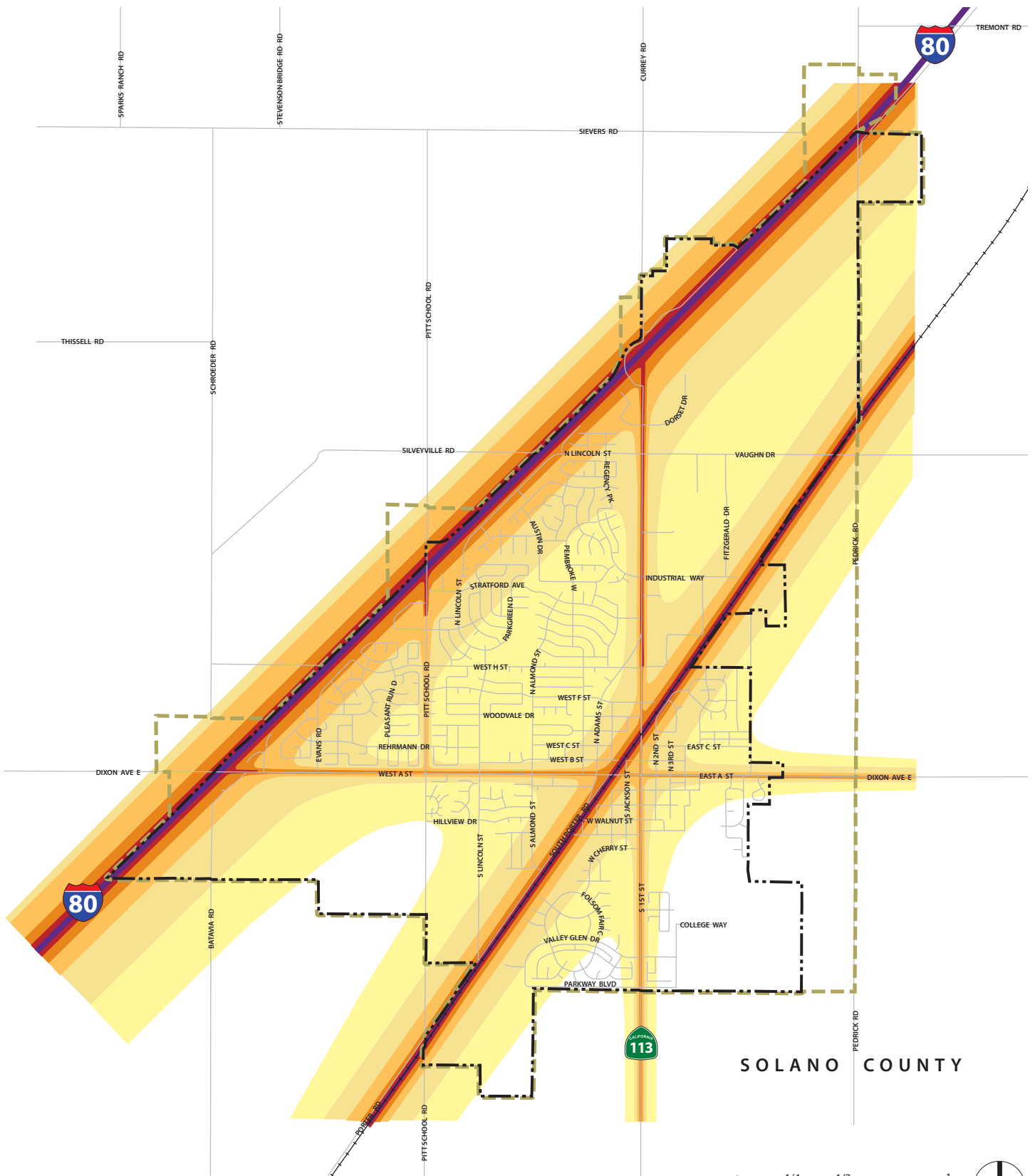
-  Railroad
-  Dixon City Limit
-  Sphere of Influence



Figure NE-8 Future Noise Contours (2040)



Source: CM Salter Associates, 2019; City of Dixon, 2019; Dyett & Bhatia, 2019.

Dixon Existing Noise Contours



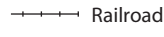









- | | | |
|---|---|--|
|  DNL 55 to 60 dB |  DNL 70 to 75 dB |  Railroad |
|  DNL 60 to 65 dB |  DNL 75 to 80 dB |  Dixon City Limit |
|  DNL 65 to 70 dB |  >DNL 80 dB |  Sphere of Influence |


Table NE-2: Community Noise Compatibility Matrix

Land Use Categories	Community Noise Exposure (CNEL, Ldn, or dBA)					
	55	60	65	70	75	80
Residential – Low Density Single Family, Duplex, Mobile Homes	Grey	Grey				
		Yellow	Yellow	Yellow		
					Green	
						Orange
Residential – Multiple Family	Grey	Grey	Grey			
			Yellow	Yellow		
					Green	
						Orange
Transient Lodging – Motels, Hotels	Grey	Grey	Grey			
			Yellow	Yellow		
					Green	Green
						Orange
Schools, Libraries, Churches, Hospitals, Nursing Homes	Grey	Grey	Grey	Grey		
			Yellow	Yellow		
					Green	Green
						Orange
Auditoriums, Concert Halls, Amphitheatres	Yellow	Yellow	Yellow	Yellow		
					Orange	Orange
						Orange
Sports Arena, Outdoor Spectator Sports	Yellow	Yellow	Yellow	Yellow	Yellow	
					Orange	Orange
						Orange
Playgrounds, Neighborhood Parks	Grey	Grey	Grey	Grey		
					Green	Green
						Orange
Gold Courses, Riding Stables, Water Recreation, Cemeteries	Grey	Grey	Grey	Grey	Grey	
						Green
						Green
						Orange
Office Buildings, Business Commercial and Professional	Grey	Grey	Grey	Grey		
				Yellow	Yellow	Yellow
						Green
Industrial, Manufacturing, Utilities, Agriculture	Grey	Grey	Grey	Grey	Grey	
						Yellow
						Yellow
						Green
						Green

-
- 

Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements. Outdoor areas are suitable for normal outdoor activities for this land use.
 - 

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air-conditioning, will normally suffice.
 - 

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
 - 

Clearly Unacceptable: New construction or development should generally not be undertaken.
-

Considerations in determination of noise – compatible land use

A. Normalized Noise Exposure Information Desired

Where sufficient data exists, evaluate land use suitability with respect to a "normalized" value of CNEL or Ldn. Normalized values are obtained by adding or subtracting the constants described in Table I to the measured or calculated value of CNEL or Ldn.

B. Noise Source Characteristics

The land use-noise compatibility recommendations should be viewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act, residential uses located in Community Noise Exposure Areas greater than 65 dB should be discouraged and considered located within normally unacceptable areas.

C. Suitable Interior Environments

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL of Ldn. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

D. Acceptable Outdoor Environments

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered "normally acceptable" for that land use category, may be appropriate.

Notes:

1. The Community Noise Equivalent Level (CNEL) and Day-Night Noise Level (Ldn) are measures of the 24-hour noise environment. They represent the constant A-weighted noise level that would be measured if all the sound energy received over the day was averaged. In order to account for the greater sensitivity of people to noise at night, the CNEL weighting includes a 5-decibel penalty on noise between 7:00 pm and 10:00 pm and a 10-decibel penalty on noise between 10:00 pm and 7:00 am of the next day. The Ldn includes only the 10-decibel weighting for late-night noise events. For practical purposes, the two measures are equivalent for typical urban noise environments.

GOAL NE-5: Minimize air, soil, noise, and water pollution as well as community exposure to hazardous conditions.

AIR, SOIL, AND WATER QUALITY

POLICIES

- NE-5.1** Coordinate with the Yolo-Solano Air Quality Management District and other local, regional, and State agencies to protect and enhance air quality in Dixon.
- NE-5.2** Continue to use the Yolo-Solano Air Quality Management District's Handbook for Assessing and Mitigating Air Quality Impacts for environmental review of proposed development projects.
- NE-5.3** Require dust abatement actions for all new construction and redevelopment projects, consistent with the Yolo-Solano Air Quality Management District's Best Available Control Measures.
- NE-5.4** Ensure adequate buffer distances are provided between offensive odor sources and sensitive receptors, such as schools, hospitals, and community centers.
- NE-5.5** Encourage development to minimize grading related to the topography and natural features in order to limit soil erosion.
- NE-5.6** Require construction projects that disturb 10,000 square feet of ground cover revegetate graded areas with native or locally-appropriate vegetation to restore biological diversity and minimize erosion and soil instability.
- NE-5.7** Coordinate with Yolo and Solano counties, the Resource Conservation District, and the Natural Resources Conservation Service in implementing programs to reduce soil erosion by wind and water and prevent soil contamination.
- NE-5.8** Coordinate with the Dixon Resource Conservation District, California Water Service, Solano Subbasin Groundwater Sustainability Agency, Solano County and others to promote, protect, and improve water quality in Dixon.
- NE-5.9** Protect surface water and groundwater resources from contamination from point (single location) and non-point (many diffuse locations) sources by pursuing strategies to minimize the pollutant and sediment levels entering the hydrological system through stormwater, agricultural, and other urban runoff.

- NE-5.10** Encourage, through redevelopment and retrofitting, phasing out of commercial and industrial building materials such as galvanized roofs that leach metals into storm water runoff.
- NE-5.11** Reduce, through redevelopment and retrofitting, the amount of uncovered industrial and commercial areas where the work activity may contribute pollutants.
- NE-5.12** Support programs that encourage residents and business owners to cleanup trash and debris as well as pet waste before it enters the storm drain systems.
- NE-5.13** Work with the Solano County Agricultural Commissioner and other responsible agencies to identify and enforce mechanisms to control residual pesticides and pesticide runoff to prevent significant risk to water quality, vegetation, wildlife, and humans.

ACTIONS

- NE-5.A** Explore the feasibility of converting the City fleet of street sweepers, Read-Ride vans and other large-scale equipment from fossil fuel to alternative fuel types using funding and incentives offered by the Yolo-Solano Air Quality Management District.
- NE-5.B** Update the City's Storm Water Quality Management Plan as needed to comply with the NPDES General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems, Order No. 2003-0005-DWQ, or as amended.
- NE-5.C** Consider developing a green infrastructure plan that employs tools such as bioswales, permeable pavement, rain gardens, rain barrels and cisterns, and green roofs to treat stormwater, attenuate floods, increase groundwater recharge, and reduce urban heat islands.
- NE-5.D** Install grease/oil separators in storm drains along roadways with heavy traffic to keep these contaminants out of storm runoff.



HAZARDOUS MATERIALS

POLICIES

- NE-5.14** Continue to require remediation of hazardous material releases from previous land uses as part of any redevelopment activities.
- NE-5.15** Regulate development on sites with known contamination of soil or groundwater to ensure that construction workers, future occupants, adjacent residents, and the environment are adequately protected from hazards associated with contamination.

NOISE

POLICIES

- NE-5.16** Ensure that noise does not have a substantial, adverse effect on the quality of life in the community.
- NE-5.17** Apply the General Plan noise and land use compatibility standards to all new residential, commercial, and mixed-use development and redevelopment, as shown in Table NE-2.
- NE-5.18** Require acoustical studies with appropriate mitigation measures for projects that are likely to be exposed to noise levels that exceed the 'normally acceptable' standard and for any other projects that are likely to generate noise in excess of these standards.
- NE-5.19** Require that new noise-producing uses are located sufficiently far away from noise-sensitive receptors and/or include adequate noise mitigation, such as screening, barriers, sound enclosures, noise insulation, and/or restrictions on hours of operation.

