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Mendocino County Zero Emission Vehicle (ZEV) Regional Readiness Plan Phase 2 - Final Feasibility Report

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Prepared by
M. Susan Haun, M.A.
Strategies By Design



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Management Team

Janet M. Orth, Mendocino Council of Governments
Loretta Ellard, Mendocino Council of Governments

GIS Mapping

Rixanne Wehren, Geographics/Coast GIS Labs

ZEV Technical Advisory Group

Howard Dashiell, Mendocino County Department of Transportation
Doug Kern, Mendocino Land Trust
Matthew Marshall, Redwood Coast Energy Authority
Rick Seanor, City of Ukiah Public Works Department
Tatiana Ahlstrand, Caltrans District 1
Robert Juengling, Gualala Municipal Advisory Council
Robert Scaglione, Mendocino County Air Quality Management District
Steve Turner, Mendocino County Office of Education
Linda Matz, Willits Main Street Merchants Association
David Almeida, Pacific Gas & Electric Company (PG&E)

Technical Assistance & Support

David Worthington, Sonoma County General Services Agency Fleet Operations
Dana Boudreau, Redwood Coast Energy Authority
John Speka, County of Mendocino
Mel Grandi, City of Ukiah
Dusty Dooley, City of Willits
Phil Dow, Mendocino Council of Governments

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ACRONYMS

EVSE	Electric Vehicle Supply Equipment
MCAQMD	Mendocino County Air Quality Management District
MCOG	Mendocino Council of Governments
MLT	Mendocino Land Trust
PEV	Plug-in Electric Vehicle
PHEV	Plug-in Hybrid Electric Vehicle
ZEV	Zero Emission Vehicle

PUBLIC NETWORK OF PLUG-IN ELECTRIC VEHICLE CHARGING STATIONS

BACKGROUND AND INTRODUCTION

In March 2012, Governor Brown issued an Executive Order that set a target of 1.5 million zero-emission vehicles (ZEVs) on California's roadways by 2025. The Governor's Office followed up on this Executive Order with its California ZEV Action Plan, which details more than 100 specific actions that state government is taking to accelerate the ZEV market. Furthermore, the deployment of Plug-in Electric Vehicles (PEVs) is critical in meeting regional greenhouse gas emission reduction targets per SB375, Sustainable Communities and Climate Protection Act of 2008.

Currently, the California market of Plug-in Electric Vehicles (PEVs) accounts for 11% of the annual new car sales nationally, at more than 1.1 million cars per year. By 2020, annual California car sales are expected to grow to 1.7 million. California also has a strong track record for early adoption of green vehicle technology, accounting for more than 20% of new hybrid electric vehicles sold in the United States.¹ The California Air Resources Board estimates

electric vehicles will make up approximately 5% of new vehicle sales in California by 2020. The large majority of PEVs currently available and planned for introduction are passenger cars, and all of those PEVs will need opportunities to charge their batteries.

While private PEV charging networks are becoming more and more available, it is a responsibility of appropriate public agencies to ensure that infrastructure is provided to all feasible, prioritized locations in the region.

This project responds to Goals, Objectives and Policies on Climate Change & the Environment in the 2010 Mendocino County Regional Transportation Plan.

Figure 1. Map of Mendocino County.



¹ California Plug-In Electric Vehicle Collaborative, Taking Charge: Establishing California, Leadership in the Plug-in Electric Vehicle Marketplace (2010), 13, http://www.evcollaborative.org/sites/all/themes/pev/files/docs/Taking_Charge_final2.pdf.

For Mendocino County, the Mendocino Council of Governments (MCOG) has completed several readiness projects. In 1997 and 1999, MCOG completed Zero Emission Vehicle (ZEV) Demonstration Projects that led to the development of two charging station locations; one in Ukiah and one in Willits. The most recent project, the Mendocino County Zero Emission Vehicle (ZEV) Regional Readiness Plan Phase 1, was completed in 2013 by MCOG in cooperation with the Mendocino County Air Quality Management District (MCAQMD). The Mendocino County ZEV Regional Readiness Plan Phase 1 details local travel characteristics, existing infrastructure, and recommendations for 19² public charging station sites throughout Mendocino County. It also includes a phasing plan for the installation of Plug-in Electric Vehicle charging stations depending upon the availability of funding, technical station issues, as well as the next steps in developing a network of ZEV charging stations in Mendocino County.

This plan begins where the Mendocino County ZEV Regional Readiness Plan Phase 1 leaves off. It focuses on the following two implementation steps:³

1. Engaging the community and soliciting public input on the location of the PEV Charging Stations as well as alternative sites, and to hear community preferences.
2. Determining the feasibility and planning-level costs of each preferred station location, including maps of each site.

THE VISION

The Mendocino County ZEV Regional Readiness Plan Phase 1 focuses on a network of stations in the county for “opportunity charging,” i.e., stations that are generally available to the public.⁴ Once the station sites are confirmed, planning-level cost estimates will be prepared for each site and used by the Mendocino Council of Governments to find funding.⁵ Site preparation, charging equipment, and installation for each site will all be paid for with this funding.

Operations and maintenance costs are expected to be recovered through payments collected from EV owners that use the charging stations. The intent of the public network is to have a “system” that pays for itself. Each charging station will be equipped with Level 2⁶ charging equipment that has two portals and, therefore, the ability to charge two EVs simultaneously (if needed). Each charging station will have a separate meter and have a card reader installed to collect payment. Due to variations in traffic volume on SR1, SR20, SR128, and US 101, the more frequently used charging stations are expected to subsidize the costs of the less frequently used

² For a list of the criteria used for site selection, please see the Mendocino County ZEV Regional Readiness Plan Phase 1, page 11.

³ Mendocino County ZEV Regional Readiness Plan Phase 1, Implementation Plan, p. 24.

⁴ This is in contrast to primary charging stations, which are the EV owner’s home.

⁵ There are several funding options right now. For example, the California Energy Commission has released a \$10 million solicitation for installing EV charging stations. Once the sites are confirmed and cost estimates prepared, the best way to proceed to obtain funding will be determined.

⁶ Level 2 Chargers, in contrast to DC Fast Chargers which typically require power upgrades, can utilize 240V power and charge a depleted battery in 2-4 hours, depending on the level of depletion and the EV type.

stations. Regular maintenance of the sites will be performed by a contractor that specializes in maintenance of PEV charging stations, rather than being done by the site hosts.

Site hosts are not expected to pay for installation costs, absorb any costs of hosting the charging station site, or subsidize electric vehicle owners, now or in the future.

ENGAGING THE COMMUNITY & SOLICITING PUBLIC INPUT

The goal of Mendocino County's regional readiness is to implement appropriate plug-in electric vehicle (PEV) charging infrastructure for public use as part of a network of neighboring regions and beyond, supporting regional and interregional use of electric and plug-in vehicles. The focus of the regional charging network strategy is on expanding charging opportunities for PEVs and thus displacing gasoline with electricity. The process of engaging the community and determining community preference on the location of the recommended PEV Charging Stations consisted of two steps: 1) individual interviews with each property owner/manager to determine his/her willingness to serve as a site host within the public network of charging stations; and 2) community forums to involve the broader, diverse community in the discussion of each PEV Charging Station site.

Interviews of Property Owners/Managers

Interviews with potential site hosts were conducted by phone from April to June 2015. The intent of the interviews was multifold: first, to notify property owners/managers that their site had been identified as one of 19 proposed charging station sites for the public network; second, to identify whether or not they are interested in being a host site; and third, to identify any facilitators, barriers and questions they may have about this designation. Each property owner/manager was asked the following eight questions:

1. Were you aware that **your site was selected** as one of these recommended charging locations?
2. *If unknown, ask:* Please tell me a little about **your roles and responsibilities** in relationship to this proposed PEV Charging Station site. [Who owns the property? Who manages it?]
3. As part of Phase II of the Readiness Plan – MCOG is determining which of the proposed sites are, indeed, interested in serving as a host location. **Would you be in support of or opposed to being a charging station host?** [Why or why not?]
4. *If the property owner/manager is not initially supportive of serving as a host site or is tentative, ask:* **Are there any conditions under which you would be willing to serve as a charging station host?** [i.e., what might convince you?]
5. **What facilitators might there be in serving as a charging station host site?** [Who or what groups are likely to be in favor of it? What benefit could this provide your business or community?]
6. **What challenges or barriers might there be in serving as a charging station host site?** [If so, how do you think they could be overcome?]
7. **Can you suggest other policy makers – formal or informal leaders – in your community that are likely to be influential on this issue?** [Would they be likely supporters or champions of efforts to your site being a charging station host – or likely oppose it?]
8. **What is the next step in the process of considering serving as a charging station host site?**

A total of 22 interviews were conducted by phone from April to June 2015, in advance of the community forums. Of the 19 proposed PEV Charging Station sites, 10 property owners/managers accepted the host designation, four rejected the host designation, and three were undecided (Table 1). Property owners/managers that accepted the site host designation did so for a variety of reasons, e.g., wanting to support the use of electric vehicles in the county, recognizing that it will draw more EV users to the community, especially to the coastal communities from the bay area, and thereby promote tourism. Property owners/managers that rejected the site host designation did so because they deemed the site unsuitable for such use, e.g., due to vandalism, such use did not fit their mission or because the property was private (and therefore not publicly accessible 24/7). A site-by-site summary of the site host response during these initial interviews is provided in Table 1 on the next page.

Biggest Issues for Property Owners/Managers

A number of issues were raised during the phone interviews of property owners/managers with regard to serving as a host site. The biggest issue had to do costs, i.e., who will pay for it? Most property owners/managers were enthusiastic to serve as a site host when they learned they would not be responsible for costs associated with installation, operations and maintenance – a considerable expense.

The second biggest issue had to do with liability and insurance, especially for privately owned property. Privately owned sites that serve the public (e.g., a hotel) are comfortable with the additional traffic on site and already have the necessary insurance coverage. However, that isn't the case for all privately owned property. Concern about mishaps at the charging station site were also expressed. Education of site owners is necessary to reassure them that the charging stations have sophisticated safety features and these safety features prevent certain actions, e.g., the safety features will not allow an EV owner to drive off while connected to a charging station.

Other issues raised by potential site hosts included concerns about “dwell time” and how to discourage people from leaving their cars for extended periods of time at the charging station site. This will be addressed through signage and by educating EV owners about Electric Vehicle Charging Etiquette. Door knob signs can also be provided to EV owners so that they can “leave a note” as to when charging will be complete. Finally, for coastal charging station sites, an important issue related to the equipment had to do with corrosion caused by the sea air. This may require selection of different equipment or periodic replacement of equipment for charging station sites along the Mendocino County coast.

Next Step in the Community Engagement Process. Contact with the property owners/managers and identifying willingness to serve as a site host, as well as any concerns and issues, was the first step in the community engagement process. The next step was to seek broad community input in a series of community forums.

Table 1. Proposed PEV Charging Stations for Public Network in Mendocino County - Site Host Response.

City	Location	Site Host Designation Accepted <input checked="" type="checkbox"/> / Rejected <input type="checkbox"/>
US 101		
Hopland	Veteran’s Memorial Building 110 Feliz Creek Road	<input type="checkbox"/>
Ukiah	Commerce Drive Cul-de-sac	<input checked="" type="checkbox"/>
Ukiah	Redwood Empire Fairgrounds 1055 N. State St.	Undecided
Willits	Willits Skunk Train Depot 299 E. Commercial St.	Installing DC Fast Charger under Grant to Mendocino Land Trust; No Contact
Laytonville	Laytonville Fire House 44761 US 101	<input checked="" type="checkbox"/>
Leggett	Leggett Valley School 1 School Way	<input type="checkbox"/>
Leggett	Confusion Hill Gravity House 75001 US 101	Not Assessed in Phase I, No Contact
SR 128		
Yorkville	Yorkville Post Office & Fire Station 25400 CA 128	<input type="checkbox"/>
Boonville	Mendocino County Fairgrounds	<input type="checkbox"/>
Navarro	Navarro General Store / Fire House 231 Wendling St.	<input checked="" type="checkbox"/>
SR 1		
Gualala	Gualala Community Center 47950 Center St.	Undecided
Point Arena	Point Arena Downtown City Lot 200-214 Main St.	<input checked="" type="checkbox"/>
Elk	Elk-Greenwood Community Center 6075 S. Highway 1	<input checked="" type="checkbox"/>
Mendocino	Community Center of Mendocino 10525 School St.	<input checked="" type="checkbox"/>
Fort Bragg	Fort Bragg Skunk Train Depot 100 W. Laurel St.	<input checked="" type="checkbox"/>
Fort Bragg	Fort Bragg City Hall 416 N. Franklin St.	<input checked="" type="checkbox"/>
Westport	Westport, Abalone St.	<input checked="" type="checkbox"/>
SR 20		
Redwood Valley	Lake Mendocino Parking Lot (North Lake Boat Ramp), Redwood Valley	<input checked="" type="checkbox"/>
Jackson State Forest	Jackson State Forest / Camp 20 Chamberlain Creek Fort Bragg	Undecided

Community Forums

The purpose of the community forums was to engage appropriate jurisdictions and the community, as well as to solicit public input on the location of the PEV Charging Stations and alternative sites, and to hear community preferences. To these ends, five community forums were conducted from May to June 2015. Consistent with the Potential Charging Station Priority Rankings,⁷ the community forums were held in Point Arena, Ukiah, Fort Bragg, Willits and Boonville. Forums were conducted in the late afternoon and early evening to promote participation by local agencies as well as by key community stakeholders.

Outreach was conducted through personal invitation via email and phone contact of approximately 200 individuals that included all key stakeholders: landowners, city/county planners, Community Municipal Advisory Committees, utility providers, PEV owners, permitting agencies, city/county policy makers and the general public. Flyers, news releases, community news and Public Service Announcements (PSAs) were also distributed to all Mendocino County media. The Community Foundation of Mendocino County and the Coast Listserv also helped promote the forums; the Cities of Fort Bragg and Point Arena posted the flyer and information on their websites and/or social media pages. For people that were unable to attend, an email address was provided for one-on-one communication. As a result, a total of 42 city/county planners, municipal advisory committee members, utility providers, policy makers, PEV owners, private business owners, and interested community members participated in the community forums.

The agenda for each community forum included a presentation of the proposed public network of plug-in electric vehicle charging stations, the criteria for site selection, a countywide location map and proposed charging stations within the area. A satellite view of each proposed site was provided, then discussed one-by-one. Participants were asked to identify the following on a site-by-site basis: what worked about the proposed site, what didn't work and recommendations for alternative sites, if any. For locations in which the property owners/managers had rejected host site designation, alternative locations were identified through one-on-one communications with local stakeholders prior to the community forum and/or by brainstorming possible alternative sites during the forum.

By the conclusion of the fifth community forum, 11 of the proposed PEV Charging Station Sites were accepted and three sites were rejected. In addition, alternatives were identified for the three rejected sites as well as the remaining four sites in which an alternative was needed. A summary of the outcomes follows in Table 2 on the next page. For a more detailed discussion of each site, please see appendices A, B, C, D and E.

⁷ For more information regarding the Potential Charging Station Priority Rankings, see the Mendocino County ZEV Regional Readiness Plan Phase 1, p. 15.

Table 2. Proposed PEV Charging Stations for Public Network in Mendocino County - Community Response.

City	Location	Community Response Accepted <input checked="" type="checkbox"/> / Rejected <input type="checkbox"/>
US 101		
Hopland	Veteran’s Memorial Building 110 Feliz Creek Road	Brainstormed Alternative Sites
Ukiah	Commerce Drive Cul-de-sac	<input checked="" type="checkbox"/> However, Alternative Sites were <u>Preferred</u>
Ukiah	Redwood Empire Fairgrounds 1055 N. State St.	<input type="checkbox"/> Brainstormed Alternative Sites
Willits	Willits Skunk Train Depot 299 E. Commercial St.	Installing DC Fast Charger under Grant to Mendocino Land Trust; Brainstormed Additional Sites
Laytonville	Laytonville Fire House 44761 US101	<input checked="" type="checkbox"/>
Leggett	Leggett Valley School 1 School Way	Brainstormed Alternative Sites
Leggett	Confusion Hill Gravity House 75001 US101	
SR 128		
Yorkville	<i>Alternative site identified before forum:</i> Yorkville Market 26701 CA 128	<input checked="" type="checkbox"/>
Boonville	<i>Alternative site identified in Phase 1:</i> Boonville Hotel 14050 CA 127	Installing DC Fast Charger under Grant to Mendocino Land Trust; Brainstormed Additional Sites
Navarro	Navarro General Store / Fire House 231 Wendling St.	<input checked="" type="checkbox"/>
SR 1		
Gualala	Gualala Community Center 47950 Center St.	<input type="checkbox"/> Brainstormed Alternative Sites
Point Arena	Point Arena Downtown City Lot 200-214 Main St.	<input checked="" type="checkbox"/>
Elk	Elk-Greenwood Community Center 6075 S. Highway 1	<input type="checkbox"/> Brainstormed Alternative Sites
Mendocino	Community Center of Mendocino 10525 School St.	<input checked="" type="checkbox"/>
Fort Bragg	Fort Bragg Skunk Train Depot 100 W. Laurel St.	<input checked="" type="checkbox"/>
Fort Bragg	Fort Bragg City Hall 416 N. Franklin St.	<input checked="" type="checkbox"/>
Westport	Westport, Abalone Street	<input checked="" type="checkbox"/>
SR 20		
Redwood Valley	Lake Mendocino Parking Lot (North Lake Boat Ramp) Redwood Valley	<input checked="" type="checkbox"/>
Jackson State Forest	Jackson State Forest / Camp 20 Chamberlain Creek Fort Bragg	<input checked="" type="checkbox"/>

SITE FEASIBILITY AND COSTS

The process of determining the feasibility of proposed PEV charging station sites consisted of four steps: 1) conducting Field Reviews of alternative sites identified during the community forums; 2) conducting outreach to landowners of alternative sites; 3) developing a revised list of recommended charging stations sites in Mendocino County for the public network based on public input; and 4) developing planning level cost estimates for each charging station site.

Site Selection Criteria

A list of criteria to select station sites throughout Mendocino County was developed as part of the ZEV Regional Readiness Plan Phase 1. The criteria included the following:

- Located on the US 101, SR 128, SR1 or SR 20 corridors
- A standard of 25 miles or less between potential charging site locations, if achievable
- Non-residential locations since EV automakers generally deploy chargers for use at owner's homes as part of their program
- Located on City, School District, County, State or Federal land such as a Post Office or other publicly owned property
- Located within walking distance (1/4-mile) of a commercial or recreational activity area
- County road right of way if other options infeasible
- Connectivity to other jurisdiction station sites
- Number of facilities to be provided based on population
- Availability of dedicated parking spaces

These criteria were applied to potential sites, as well as other factors and conditions in each community. All recommended charging stations sites were surveyed for the following:

- Type of parking, whether it was on-street, off-street or undeveloped
- Potential type of charging service that can be made available on the site
- Times and dates available for users to charge their vehicles
- Ease for electric vehicle users to access the site because of visibility and/or signage with recommended access improvements
- Benefits of the location based on ease of access and nearby activities
- Whether or not the zoning of the site is compatible or difficult to rezone
- Communication availability including cell phone reception, land line or other
- Activities in the vicinity that would allow users to spend their time shopping, eating, hiking, etc.
- Safety of parking space location

For these reasons, sites were not considered that were not publicly accessible, e.g., behind a locked gate for any portion of the day or at a location that would require EV owner patronage. However, private businesses were considered in very rural parts of the county where there were no other feasible alternatives.

Alternative Sites Identified and Results of Field Reviews

A total of 61 alternative sites across Mendocino County were identified by forum participants as a result of the brainstorming discussions during each of the five community forums. These sites were evaluated using the **Site Selection Criteria** iterated above (p. 13). An alternative site was then selected for field review in each of the areas where the recommended PEV Charging Station site was either rejected by the potential site host or by community forum participants (with the only exception to this being Leggett, where two potential sites were identified). Field reviews were then conducted on 10 sites, and as a result, the following seven sites were selected as proposed alternative sites:⁸

1. Hopland Fire Station
2. City of Ukiah Corporation Yard at Airport Rd.
3. Ukiah Crossroads Shopping Center
4. Yorkville Market
5. Gualala Caltrans Right of Way
6. Leggett Peg House
7. Willits City Lot at School St.

A summary list of the revised 18 proposed charging station sites is provided in Table 3 on page 14 and in Figure 2 on page 15.⁹ Note that two sites: the Willits Skunk Train Depot and the Boonville Hotel, assessed during Phase 1 of the ZEV Regional Readiness Plan, are installing DC Fast Chargers under a California Energy Commission grant awarded to the Mendocino Land Trust. This results in a net 16 potential PEV Charging Station sites in Mendocino County for the public network of charging stations (Table 4). A map of each site is provided in Appendix G (pps. 44-57).

Willingness to serve as a potential site host has been positively established with all but four of the proposed alternative sites, who are undecided or have not yet been contacted at this writing: Hopland Fire Station (undecided as they need more information), Ukiah Crossroads Shopping Center (not contacted), Gualala Caltrans Right of Way (not contacted), and Willits City Lot (not contacted).

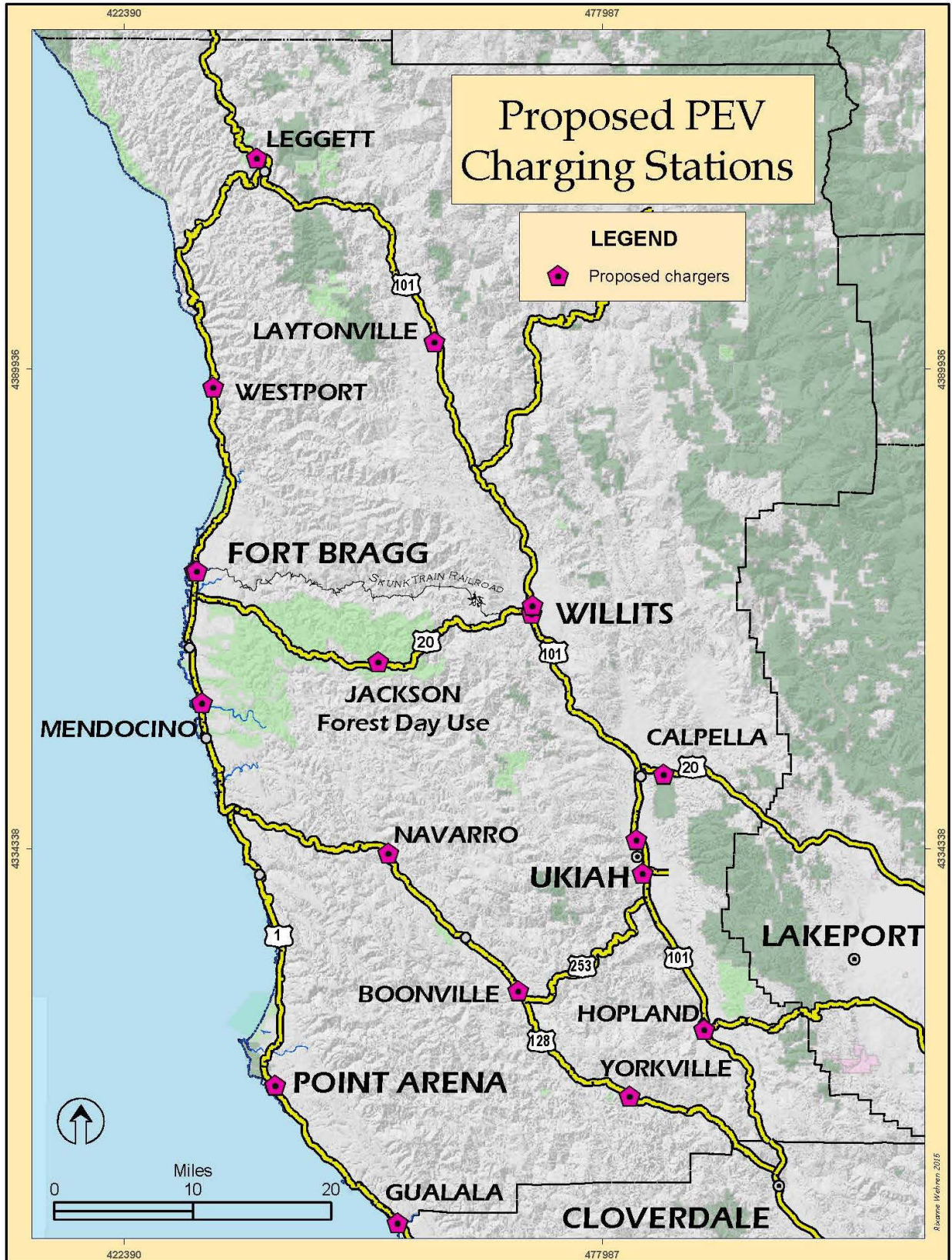
⁸ Field Review reports on the 9 sites can be found in Appendix F. Note that the Leggett Fire House it did not meet all of the requirements to serve as a charging station host; the landowners of the Elk Post Office rejected site host designation due to liability concerns.

⁹ Field Reviews of the remaining 10 recommended sites, which were assessed in 2013, can be found in the Mendocino County ZEV Regional Readiness Plan Phase 1, Appendix C.

Table 3. Revised 18 Proposed PEV Charging Stations for Public Network in Mendocino County

City	Location	Address
US 101		
Hopland	Hopland Fire Station	21 Feliz Creek Road
Ukiah	City of Ukiah Corporation Yard	1320 Airport Rd.
Ukiah	Crossroads Shopping Center	Ford Rd.
Willits	Willits Skunk Train Depot	299 E. Commercial St. Installing DC Fast Charger under Grant to Mendocino Land Trust
Willits	Willits City Lot	School St.
Laytonville	Laytonville Fire House	44761 US101
Leggett	The Peg House	69501 US 101
SR 128		
Yorkville	Yorkville Market	26701 CA 128
Boonville	Boonville Hotel	14050 CA 127 Installing DC Fast Charger under Mendocino Land Trust Grant
Navarro	Navarro General Store / Fire House	231 Wendling St.
SR 1		
Gualala	Caltrans Right of Way	Westside of Hwy. 1, North of Center St.
Point Arena	Point Arena Downtown City Lot	200-214 Main St.
Mendocino	Community Center of Mendocino	10525 School St.
Fort Bragg	Fort Bragg Skunk Train Depot	100 W. Laurel St.
Fort Bragg	Fort Bragg City Hall	416 N. Franklin St.
Westport	Westport, Abalone Street	Abalone St.
SR 20		
Redwood Valley	Lake Mendocino Parking Lot (North Lake Boat Ramp)	Redwood Valley
Jackson State Forest	Camp 20 Chamberlain Creek	Jackson State Forest

Figure 2. Map of Revised 18 PEV Charging Stations Sites in Mendocino County



Planning-Level Cost Estimates – Site Development, Equipment & Signage

There is an array of technical issues and details at a ZEV charging station. Actual costs are site specific and tend to vary considerably from site to site, with the most significant costs related to the availability and proximity of power. However, planning level costs provided here are exploratory in nature and will be used as rough estimates to prepare proposals to solicit funding.

For the purpose of this analysis, cost estimates are broken down into 3 types: site development, equipment and signage. A description of each is provided below. Cost estimates per site are provided in Table 4 (p. 19).

Site Development¹⁰ costs include permits, power, metering, trenching/conduit, paving, lighting and striping.

Permits/Zoning¹¹ – all sites will need construction and electrical permits through the city or county Planning Departments. Public sites will not need to be rezoned; however, private sites may need to be rezoned. One site may need a Conditional Use Permit. Est. \$500

Panel Upgrade¹² – Level 2 AC charging are rated at less than or equal to 240V AC, and less than or equal to 80 A. Level 2 Electric Vehicle Supply Equipment (EVSE) requires additional grounding, personal protection system features, a no-load make/break interlock connection, and a safety breakaway for the cable and connector. Est.: Cost for Panel Upgrade Unknown

Power Drop¹³ – if 240 V service is not already installed at the charging site, a new service drop will be required from the utility. With a 40A, 240 V service power can be delivered up to 7.5 kW, which shortens charging time considerably for PEVs. Est. \$10,000.

Metering – a separate utility meter will be installed at each charging station site location to track power usage. Est. \$2,000

Trenching / Conduit – all sites will need trenching from the meter to the charging station location and may require trenching from the power source to the meter. Est. \$100 per foot

Paving – each charging station will have two parking spaces. Note that all new charging stations must meet ADA compliance. Est. \$4,000 for two parking spaces

¹⁰ The Division of State Architect released the Proposed 2013 Guidelines for Electric Vehicle Charging Stations, March 2013, containing accessibility standards. At minimum, charging stations should include: public parking space(s), signage with 4-hour time limits, charging unit with cords, and method of payment and activation. Anecdotal information suggests that meeting new ADA requirements may add a cost of \$5,000 per site. To meet ADA requirements for dual chargers, the first parking space needs to accommodate an ADA electric wheelchair van, the second space is standard, the third space is an ambulatory space – slightly wider and longer. For these reasons, the lines in parking lots may have to be redrawn and local permitting agencies will have to be consulted to determine if more parking spaces have to be created.

¹¹ The County of Mendocino would not require use permits to install EV stations for existing commercial or public facility type buildings, instead considering the “use” to be incidental to the business, etc. Vacant properties would have to be evaluated against Section 20.024.025 of the County Code.

¹² To finalize costs and feasibility, each site would have to be evaluated by an electrical contractor one-by-one to determine the best location of the charging station, considering the location of the power pole and the electrical box. This information is also needed by permitting agencies to estimate electrical and site permit costs.

¹³ In Sonoma County’s experience, the cost of new service varied between \$10,000 and \$30,000, depending on the charging station location. PG&E estimated \$8,000 - \$10,000, not including a meter, trenching or laying conduit.

Lighting – Some sites will require additional lighting. Local city and county ordinances require that lighting be shielded and downcast. Est. \$1,000 - \$2,500

Striping – each charging station will require striping of the parking spaces. Est. \$500-\$1,000

Charging Equipment & Payment Method

Charging Equipment – a Level 2 charging station will be installed at each site that includes two charging ports so that two vehicles can be charged simultaneously by one unit. Level 2 chargers require 240V and will provide 85% of a charge in 2-3 hours at 40A service (in contrast to Level 1 chargers which take 8 or more hours). Est. \$6,400¹⁴¹⁵

Usage Tracking & Payment Methods – all charging stations will include usage tracking to determine effectiveness of each station, frequency of usage and average connect time, and a direct payment mechanism where users pay a fee up front when charging through the use of a credit card or reloadable debit card specifically for vehicle charging. This requirement will limit sites to those that have WIFI or landlines. Est. \$3,000

Signage

Site Signage – each charging station will require a minimum of three signs: a regulatory sign (No Parking Except for Electric Vehicle Charging), a permissive parking restriction sign (e.g., 4-hour charging) and an information sign concerning ADA disabled access. Est. \$600

Roadway Signage – each charging station will require a minimum of two road signs in each of two directions: a Route sign with advance turn and directional arrow. Est. \$2,400

Estimated costs for site development, installation and equipment per site are provided in Table 4. Prices are based on installation of 1 charging station. Note that prices range from \$16,400 to \$32,400, not including a 40% contingency to cover unexpected costs. The price of charging station equipment is expected to decline as demand increases. Furthermore, discounts may apply if multiple charging stations are purchased and installed simultaneously.

¹⁴ Equipment is subject to setback requirements for unincorporated areas of the county. If the setback can't be met, a Variance Application will need to be submitted. The cost of the Variance Application is \$1,180.

¹⁵ DC Fast Chargers were not considered because they are considerably more expensive than Level 2 Chargers. DC Fast Chargers require a transformer upgrade on the utility side and, in rural areas, getting three-phase power to a site is not always an option. A DC Fast Charger site is estimated to cost approximately \$150,000 per site. This estimate includes equipment, the cost of a transformer upgrade and labor.

Table 4. Estimated Installation & Equipment Costs Per PEV Charging Station¹⁶

City	Location	Permits ¹⁷	Power Drop	Meter	Panel Upgrade	Trenching / Conduit	Paving	Lighting	Striping	Charging Equipment & Payment Module ¹⁸	Signage	Total Estimated Cost
US 101												
Hopland	Hopland Fire Station 21 Feliz Creek Road	\$500	-	\$2,000	Unknown	75' \$7,500	\$4,000	\$2,500	\$500	\$9,400	\$3,000	\$29,400
Ukiah	City of Ukiah Corporation Yard 1320 Airport Rd.	\$500	-	\$2,000	Unknown	20' \$2,000	\$4,000	\$1,000	\$500	\$9,400	\$3,000	\$22,400
Ukiah	Crossroads Shopping Center Ford Rd.	\$500	-	\$2,000	Unknown	10' \$1,000	-	-	\$500	\$9,400	\$3,000	\$16,400
Willits	City Lot School St.	\$500	-	\$2,000	Unknown	10' \$1,000	-	\$1,000	\$500	\$9,400	\$3,000	\$17,400
Laytonville	Laytonville Fire House 44761 US101	\$500	-	\$2,000	Unknown	10' \$1,000	-	\$2,500	\$500	\$9,400	\$3,000	\$18,900
Leggett	The Peg House 69501 US 101	\$500	Unknown	\$2,000	Unknown	50' \$5,000	-	\$1,000	\$500	\$9,400	\$3,000	\$21,400
SR 128												
Yorkville	Yorkville Market 26701 CA 128	\$500	-	\$2,000	Unknown	30' \$3,000	-	\$1,000	\$500	\$9,400	\$3,000	\$19,400
Navarro	Navarro General Store / Fire House 231 Wendling St.	\$500	-	\$2,000	Unknown	10' \$1,000	-	\$1,000	\$500	\$9,400	\$3,000	\$17,400
SR 1												
Gualala	Caltrans Right of Way West side of Hwy. 1, North of Center St.	\$500	-	\$2,000	Unknown	20' \$2,000	\$4,000	\$2,500	\$1,000	\$9,400	\$3,000	\$24,400

¹⁶ Estimated costs are limited to installation and equipment costs and, therefore, do not include operations and maintenance costs.

¹⁷ All sites will require construction and electrical permits. The actual cost of permits is dependent on the extent of site development and will have to be determined with a site-by-site analysis by city/county planners.

¹⁸ There is a monthly service fee for dual plug EVSE stations that is not included in these installation estimates since it is an operational cost. Estimated service fee for 16 charging stations per month is \$300; \$3,600 annually. See Appendix H for more details.

Table 4. Estimated Installation & Equipment Costs Per PEV Charging Station¹⁶

City	Location	Permits ¹⁷	Power Drop	Meter	Panel Upgrade	Trenching / Conduit	Paving	Lighting	Striping	Charging Equipment & Payment Module ¹⁸	Signage	Total Estimated Cost
Point Arena	Point Arena Downtown City Lot, ¹⁹ 200-214 Main St.	\$500	-	\$2,000	Unknown	10' \$1,000	\$4,000	\$1,000	\$500	\$9,400	\$3,000	\$21,400
Mendocino	Community Center of Mendocino ²⁰ 10525 School St.	\$500	-	\$2,000	Unknown	100' \$10,000	\$4,000	\$2,500	\$1,000	\$9,400	\$3,000	\$32,400
Fort Bragg	Fort Bragg Skunk Train Depot 100 W. Laurel St.	\$500	-	\$2,000	Unknown	20' \$2,000	-	-	\$500	\$9,400	\$3,000	\$17,400
Fort Bragg	Fort Bragg City Hall 416 N. Franklin St.	\$500	-	\$2,000	Unknown	20' \$2,000	-	-	\$500	\$9,400	\$3,000	\$17,400
Westport	Westport, Abalone Street Abalone St. ²¹	\$500	Unknown	\$2,000	Unknown	100' \$10,000	\$4,000	\$2,500	\$1,000	\$9,400	\$3,000	\$32,400
SR 20												
Redwood Valley	Lake Mendocino Parking Lot (North Lake Boat Ramp), Redwood Valley	Construction / Electrical	-	\$2,000	Unknown	50' \$5,000	-	-	\$500	\$9,400	\$3,000	\$19,400
Jackson State Forest	Camp 20 Chamberlain Creek Jackson State Forest	Construction / Electrical	-	\$2,000	Unknown	100' \$10,000	\$4,000	\$2,500	\$500	\$9,400	\$3,000	\$30,900
											Sub Total	\$359,400
											Plus 40% Contingency to Cover Unanticipated Costs	\$143,760
											Grand Total	\$503,160

¹⁹ If the charging station changes the intensity of use of the parking lot, an evaluation of the number of spaces would have to occur. If two parking spaces would have to be developed, a Coastal Development Permit would be required.

²⁰ There is a potential requirement for a Mendocino Historical Review Board Permit.

²¹ May require a Conditional Use Permit if the charging station site is right next to the grocery store.

Determining Priority for Stations

Funding to install, operate and maintain the proposed public network of charging stations is unknown at this time. However, there are various funding opportunities becoming available.²² It is assumed that funding will be limited and a phased approach may be necessary to install charging stations in increments. For this reason, a Proposed Charging Station Priority Ranking is provided below. As the first step, the priority ranking was based on the same factors utilized in Phase 1:

- Highway Traffic Volume
- Community Population
- Tourism Connection

However, since the Mendocino County Zero Emission Vehicle Readiness Plan Phase 1 was completed in 2013, publicly available charging stations have been installed or are in the planning phases in several communities. For this reason, as a second step, higher volume sites were alternated with remote sites to create a safety net on access routes to population centers in Mendocino County. Table 5 shows the resulting rankings.²³

Table 5. Proposed Charging Station Priority Ranking

Priority Ranking	Highway	City	Location	Address
1	101	Ukiah	City of Ukiah Corporation Yard	1320 Airport Rd.
2	20	Jackson State Forest	Camp 20 Chamberlain Creek	Jackson State Forest
3	101	Ukiah	Crossroads Shopping Center	Ford Rd.
4	101	Leggett	The Peg House	69501 US 101
5	101	Hopland	Hopland Fire Station	21 Feliz Creek Road
6	128	Yorkville	Yorkville Market	26701 CA 128
7	1	Fort Bragg	Fort Bragg Skunk Train Depot	100 W. Laurel St.
8	1	Point Arena	Point Arena Downtown City Lot	200-214 Main St.
9	101	Willits	City Lot	School St.
10	1	Westport	Westport, Abalone Street	Abalone St.
11	1	Fort Bragg	Fort Bragg City Hall	416 N. Franklin St.
12	1	Gualala	Caltrans Right of Way	Westside of Hwy. 1, North of Center St.
13	20	Redwood Valley	Lake Mendocino Parking Lot (North Lake Boat Ramp)	Redwood Valley
14	101	Laytonville	Laytonville Fire House	44761 US101
15	1	Mendocino	Community Center of Mendocino	10525 School St.
16	128	Navarro	Navarro General Store / Fire House	231 Wendling St.

²² The California Energy Commission has two funding solicitations: \$10 million in July/August 2015 .and another \$17 million in January/February 2016 for EV charging infrastructure: <http://www.energy.ca.gov/contracts/transportation.html>.

²³ For the original prioritization calculations, see the ZEV Regional Readiness Plan Phase 1, Appendix D.

RECOMMENDATIONS & NEXT STEPS

The purpose of this study was to continue where the Mendocino County ZEV Regional Readiness Plan Phase 1 left off and solicit public input on the proposed network of Plug-In Electric Vehicle Charging Stations in Mendocino County, as well as determine the feasibility and planning level costs so that funding could be sought. With a revised list of 16 potential charging stations sites for an estimated installation cost of a little more than \$500,000, recommendations on how to proceed follow.

Site-by-Site Electrical Analysis

Beyond the scope of this study was conducting an electrical analysis of each site. To finalize costs, an electrical analysis needs to be done, with each site being evaluated one-by-one by an electrical contractor to determine inbound and outbound amperage, whether or not panel upgrades are necessary, or if other locations on the site for the charging station will require less trenching and are, therefore, more economical. Each site also needs to then be evaluated by city/county planners to determine permitting costs.²⁴ It is quite possible that, as a result of an electrical review, some sites will be eliminated from the list because they do not have the necessary power, will require a costly power drop from a utility provider and will, therefore, not be economically feasible to use as a charging station host site.

Additional Station Considerations

There are other sites which could become viable and useful to Mendocino County residents, travelers and tourists. These possible sites were mentioned in conversations with various community members: Albion, Philo and Little River were specifically identified during the public input process as possible locations for charging stations, as was having a second charging station in Point Arena on the Pier.

Any recommended sites will have to meet basic Site Selection Criteria and be evaluated by an electrical contractor before final site feasibility and installation/equipment costs can be determined.

Any proposed site locations should take into consideration the 10 state park sites that are installing charging stations under the California Energy Commission grant received by the Mendocino Land Trust, as well as the private charging station sites that are growing in numbers, so that charging stations are not installed in close proximity.

²⁴ Note that the cost to users, monitoring and maintenance costs, and impact to the power grid are beyond the scope of this study.

Public vs. Private Property and Liability Issues

Of all of the issues that emerged during one-on-one communications and during the community forums, one stood out: public vs. private property, including liability issues and insurance requirements. Public property is already designated for public use and has the requisite insurance. The same is not true for all private sites. For these reasons, it is recommended that the Mendocino Council of Governments (MCOG) limit the sites that are part of the public network to those sites that are on public property. Please see below for recommendations on how MCOG can support the private network of charging stations.

Supporting the Private Network of Charging Stations

With more and more electrical vehicles on the market, private businesses in Mendocino County (e.g., hotels, retailers, etc.) are recognizing the benefit of having a charging station on site for their customers. In fact, the private network in Mendocino County is growing at a faster rate than the public network. For this reason, it is recommended that MCOG support the private network of charging stations in the following ways to expand the charging opportunities for PEVs countywide:

1. Develop user-friendly guidelines to provide instructions for and guidance on installing charging stations at private business sites.
2. Provide technical assistance in design review, equipment selection and estimating fees for charging station use by EV owners.
3. Provide support in the form of mini-grants to help defray the cost of installing charging stations at private sites.

APPENDICES

Appendix A

COMMUNITY FORUM – POINT ARENA

May 26, 2015 – Point Arena City Council Chambers

BACKGROUND AND METHODOLOGY

This community forum was one of five forums conducted in Mendocino County in May-June, 2015. The agenda included a presentation of the proposed public network of plug-in electric vehicle charging stations including criterion for site selection, the countywide location map and proposed charging station sites within the south coast area. Proposed sites were Elk Greenwood Community Center, Point Arena Downtown City Lot, and the Gualala Community Center. Each proposed site was then discussed one-by-one. Participants were asked to identify the following on a site-by-site basis: what worked about the proposed site, what didn't work and recommendations for alternative sites (if any). Note that there were differences of opinions among participants and these differences of opinion are noted below. A summary of the comments follows.

DISCUSSION**ELK-Greenwood Community Center Proposed Site****WHAT WORKS?**

Facilitators, Advantages of Using Proposed Site
None identified

WHAT DOESN'T WORK?

Challenges, Barriers to Using Proposed Site

- Elk-Greenwood Community Center is isolated and not safe because people are not on site regularly. (The middle of town, right off Highway 1, would be safer)
- Duplication with State Park Charger ¼ mile up the road.
- Parking lot is full during events.
- Too distant from downtown shops.
- Where is the Elk power main line buried (on the east or west site of the highway)? Affects expense of installation.

ALTERNATIVES suggested

- Post Office site in the middle of town – only 2 parking spaces in front (and associated “dwell time” concern), but there are 3 parking spaces in back which are almost never used. Talk with Water Master Charlie Acker about this site.
- Questions about alternative site: is it owned by the federal government or leased?

Point Arena Downtown City Lot Proposed Site**WHAT WORKS?**

Facilitators, Advantages of Using Proposed Site

- There is a public restroom in the Point Arena Downtown City lot with electricity.
- There is a junction box on the sidewalk (a 440a PGE power vault at site), the site is easy access right off Highway 1, off street parking, a historic district, shops, big parking lot with parking mostly available, broadband available
- Recreational trail access.

WHAT DOESN'T WORK?

Challenges, Barriers to Using Proposed Site

- There are 2 business districts in Point Arena: downtown and the pier.
- There is limited parking downtown – lot is full during events.
- Needs more lighting; possibly another flood light on the Arena Theatre building

ALTERNATIVES suggested

- The Pier as an additional site, not instead of the downtown lot. There are overnight campgrounds, a Day Use Park, 3-stage power
- Alternatively, consider putting in a charger at either of the service stations downtown
- Consider putting in a charger on a private site at the downtown motel

Gualala Community Center Proposed Site

WHAT WORKS?

Facilitators, Advantages of Using Proposed Site

- Gualala Community Center has ample power and parking, parking lot is paved
- The big parking lot allows the charging station to be placed somewhere else in the lot (rather than right next to the building)
- The Farmers Market utilizes the parking lot on a weekly basis – facilitates promotion
- Caltrans may have an easement on the east side of the highway, if the charging station was put in the parking lot but closer to the highway

WHAT DOESN'T WORK?

Challenges, Barriers to Using Proposed Site

- Access only from Center Street, distance from shopping mall
- Additional lighting may be needed. Is cell service available on site?
- There are better sites farther north in town, but no public property

ALTERNATIVES suggested

- Sundstrom mall (private property)
- Caltrans lot southwest of Center Street, west side of the highway. There is a gravel strip on this west side of the highway. If the strip was paved, a charging station could be placed there. It has cell phone service. Caltrans owns the property. (Speak with Phil Dow about Streetscape Plan, as well as Robert Juengling). Direct access to California Coastal Trail and regional park.

General Comments about the Public Network System

- Credit card charging brings dollars back to the project. Needs to have a separate meter and payment service (a vendor).
- All electric underground.
- Needs to be actively maintained, not just someone you call; some place that the proprietor of the site can call if they need help.
- Promotion, statewide (through the regional areas that promote travel and tourism) and local (within the county).
- Each station needs have a dedicated power line with transformer, light 24/7 (maybe motion detector light instead of flood light), which would also cut down on vandalism.
- Invest in fast chargers for all sites (rather than the Level 2 chargers).
- On grid vs. off grid – use solar power.
- Capital funding dollars and grants for installation would pay to offset operations and maintenance costs.
- Caltrans – free highway signage? Request that annual fees be waived.
- Sea Ranch Lodge has two chargers at the Lodge and one at the rental parking lot.
- Point Arena Lighthouse Board is discussing installing a charger.
- Stainless steel fixtures are not good on the coast, will rust quickly.
- St. Orres resort is considering installing a charger. Suggests that the County develop signage on the highway for all chargers.

Comments submitted via email after the community forum:

Suggest that the charging station in Point Arena City should be at City Hall at the north end of town where there is about an acre of flat public land; alternately, there might be room within the Caltrans right of way on the ocean side just south of the Gualala Hotel.

Like the spot next to the Arena Theatre in downtown Point Arena; also suggest another station at the Pier.

For Elk, instead of at the Post Office or Community Center, consider the Downtown Gallery (a private business). Otherwise, because there is a state park in town, consider adding a charging station in Albion or Little River.

Appendix B

COMMUNITY FORUM – UKIAH

May 27, 2015 – Mendocino County Veterans Memorial Building

BACKGROUND AND METHODOLOGY

This community forum was one of five forums conducted in Mendocino County in May-June, 2015. The agenda included a presentation of the proposed public network of plug-in electric vehicle charging stations including criterion for site selection, the countywide location map and proposed charging station sites within the south coast area. Proposed sites were Highway 20 Lake Mendocino Parking Lot, Redwood Empire Fairgrounds, Commerce Drive Cul-de-sac, and Hopland Veterans Memorial Building. Each proposed site was then discussed one-by-one. Participants were asked to identify the following on a site-by-site basis: what worked about the proposed site, what didn't work and recommendations for alternative sites (if any). Note that there were differences of opinions among participants and these differences of opinion are noted below. A summary of the comments follows.

DISCUSSION**Highway 20 Lake Mendocino Parking Lot Proposed Site****WHAT WORKS?****Facilitators, Advantages of Using Proposed Site**

- Gate down Marina Drive (which is locked between September 15 and May 15) would not be a problem for a PEV charging station in the parking lot off Highway 20 (or in the Day Use Park farther down Marina Drive).
- Lots of recreation and trail opportunities while EVs are charging
- Parking is easy to enforce so that dwell time is not a problem
- Army Corp of Engineers owns site and is interested / supportive
- MOA, in cooperation with a local nonprofit, can be established.
- A contractor is being sought to operate the Marina, so the little store is expected to reopen soon.

WHAT DOESN'T WORK?**Challenges, Barriers to Using Proposed Site**

- Incompatibility with existing use, i.e., Boaters will be unhappy that parking spaces are unavailable.
- "Dwell time" by EV owners.
- Marina Market and boat ramp not open year round.
- Parking lot is full in summer
- Power will need to be run to the far end of the lot from the Marina Market building.

ALTERNATIVES suggested

- Instead of a charging station at the parking lot above the boat ramp, put one right near the Marina Market (which will make running power a little easier) or in the Day Use Park farther down Marina Drive (the gate will not be a problem for access to the charging station).

Redwood Empire Fairgrounds Proposed Site**WHAT WORKS?****Facilitators, Advantages of Using Proposed Site**

- There is power available and ample parking spaces; parking lot is paved.
- Similar existing services for RVs.

WHAT DOESN'T WORK?**Challenges, Barriers to Using Proposed Site**

- "Dwell time" issue
- Not the best location on site.
- Distance from shopping mall and commercial activity.
- Parking lots are often full during events.

ALTERNATIVES suggested

- Consider the Charter School parking lot (this is counter to policy to not have charging stations on school sites)
- Consider Crossroads Shopping Center (Raley's Supermarket) – it's closer to the freeway and less of a walking distance to commercial activity.

Commerce Dr. Cul de Sac Proposed Site

WHAT WORKS?

Facilitators, Advantages of Using Proposed Site

- Close to the highway
- The site is very close to commercial activity in the Airport Park Blvd. Mall, as well as hotels, restaurants and other services; lots of commercial activity
- There is lighting on both sides of the street (on the buildings)

WHAT DOESN'T WORK?

Challenges, Barriers to Using Proposed Site

- Right of way concerns.
- MTA buses use the Cul de Sac as a turnaround point, as does the Fire Department
- There is no sidewalk, limited parking and, in some areas, no curb.
- There is potential future completion with private stations
- Transient population near Walmart may be a disincentive for EV owners

ALTERNATIVES suggested

- Consider a station closer to the new Costco store (which is more likely to attract EV owners than Walmart).
- Consider a station at City corporation yard at west end of Commerce Drive (opposite end from cul-de-sac), a short walk to restaurants, hotels, shopping and rail-trail. Has power, lighting, and parking spaces next to City's office storage building.

Hopland Proposed Site

WHAT WORKS?

Facilitators, Advantages of Using Proposed Site

- A charging station in Hopland supports tourism

WHAT DOESN'T WORK?

Challenges, Barriers to Using Proposed Site

- Site at Veterans Memorial Building was not feasible. Alternative ideas were generated (see below)

ALTERNATIVES suggested

- Real Goods / Solar Living Institute? – it is private property and off-street parking is behind a gate. The challenge with private sites is that the selection process would have to be a fair process. Unsafe pedestrian access into town across highway bridge from this site.
- Consider old and new Fire Station sites
- Explore EV site in Hopland Engineered Feasibility Study and ask residents where they would like an EV Charging Station

Comments submitted via email after the community forum or via the Feedback Form:

Walmart may put in solar and install a charging station; comments suggested that some were opposed to that apparent “competition”. However, that should be viewed as an opportunity and a possible public-private partnership.

Sites should be where people can easily walk to shopping library, museum, and entertainment. Ukiah Redwood Fairgrounds is the least useful. Please find a more central site like the new Court House or Library.

Appendix C

COMMUNITY FORUM – FORT BRAGG

June 2, 2015 – Fort Bragg City Council Chambers

BACKGROUND AND METHODOLOGY

This community forum was one of five forums conducted in Mendocino County in May-June, 2015. The agenda included a presentation of the proposed public network of plug-in electric vehicle charging stations including criterion for site selection, the countywide location map and proposed charging station sites within the south coast area. Proposed sites were Westport / Abalone St. Store, Fort Bragg Skunk Train Depot, Community Center of Mendocino, and Camp 20 Site (Highway 20 Between Fort Bragg and Willits). Each proposed site was then discussed one-by-one. Participants were asked to identify the following on a site-by-site basis: what worked about the proposed site, what didn't work and recommendations for alternative sites (if any). Note that there were differences of opinions among participants and these differences of opinion are noted below. A summary of the comments follows.

DISCUSSION**Westport / Abalone St. Store Proposed Site****WHAT WORKS?****Facilitators, Advantages of Using Proposed Site**

- The parking on the street is public parking.
- The Westport Store has lots of local use.
- Good upgrade of infrastructure for the community.
- The site is near the highway, the Westport Hotel, the Westport Store and the headlands.
- It provides a Branscomb Road connection to Laytonville and Highway 101

WHAT DOESN'T WORK?**Challenges, Barriers to Using Proposed Site**

- The site only has on-street parking.
- Competes for parking space with shoppers.
- Distance from the power supply.
- "Dwell time" is an issue (for all sites) and keeping non-EV cars out of the charging station space (for all sites)

ALTERNATIVES suggested

- The charging station could be placed further up the street, going east along Abalone St.
- Alternatively, the charging station could be moved across the highway (west).

Fort Bragg Skunk Train Depot Proposed Site

WHAT WORKS?

Facilitators, Advantages of Using Proposed Site

- The site is centrally located.
- Good for commuting workers, locals and tourists.
- Multi-modal transportation site with the train.
- Close to City Hall, Town Hall and downtown merchants.

WHAT DOESN'T WORK?

Challenges, Barriers to Using Proposed Site

- City parking lot is full often – downtown uses it
- Corrosive ocean atmosphere needs to be taken into consideration so that the appropriate materials/products are selected.
- Need multiple slots.
- Needs directions to other chargers, tourist maps.
- Local power source is important to cost (short run to power source is less expensive).
- Set up power so that chargers can be updated.

ALTERNATIVES suggested

- Franklin Street lot at City Hall.
- Consider City lots behind the Company Store, Fire Department and the end of Oak St.
- Harvest Market / Boatyard Shopping Center (owner is willing to contribute to the cost). There is power and telecommunications.
- College campus
- Botanical Gardens

Community Center of Mendocino Proposed Site

WHAT WORKS?

Facilitators, Advantages of Using Proposed Site

- Location is good, central; good site!
- The site is always accessible and spaces are always available.
- The site is very close to commercial activity.
- Safe area, needs ADA access

WHAT DOESN'T WORK?

Challenges, Barriers to Using Proposed Site

- No lighting currently; dark at night. Street lighting on School St.
- There are pot holes in the parking lot

ALTERNATIVES suggested

- Consider east side of the Garden Store
- Backside of Art Center
- Harvest at Mendoza's Market

Camp 20 Site

WHAT WORKS?

Facilitators, Advantages of Using Proposed Site

- Good emergency site.
- Connects Fort Bragg with Willits
- May be able to get support from state mandates!
- Swimming hole.
- Possible matching funds from businesses, emphasize rural-urban, underserved area, develop user base enthusiasm.

WHAT DOESN'T WORK?

Challenges, Barriers to Using Proposed Site

- Should have level 3 Fast Charger – there are long, steep climbs in route
- Need to develop more power capacity
- Lots of vandalism
- Policy to preserve the natural character of the environment
- Need to reestablish landline telephone

ALTERNATIVES suggested

- None identified (there are no alternative sites in the vicinity)

Comments submitted via email after the community forum or via the Feedback Form:

The Community Center of Mendocino (CCM) is a great location, especially away from the main entrance. I would not recommend to use the Harvest Market site in Mendocino; a public place like the CCM site is better. Also suggest, one station at Public Health in Ukiah, the gas station in Boonville, several chargers in downtown Ukiah and one at Mendocino Works.

Appendix D

COMMUNITY FORUM – WILLITS

June 3, 2015 – Willits City Council Chambers

BACKGROUND AND METHODOLOGY

This community forum was one of five forums conducted in Mendocino County in May-June, 2015. The agenda included a presentation of the proposed public network of plug-in electric vehicle charging stations including criterion for site selection, the countywide location map and proposed charging station sites within the south coast area. Proposed sites were Laytonville Fire House and the Camp 20 Site (between Fort Bragg and Willits). Each proposed site was then discussed one-by-one. Participants were asked to identify the following on a site-by-site basis: what worked about the proposed site, what didn't work and recommendations for alternative sites (if any). Since there was not a site identified in Leggett and because a DC Fast Charger was being installed at the Skunk Train Depot site in Willits, possible sites were brainstormed for each of these two communities. Note that there were differences of opinions among participants and these differences of opinion are noted below. A summary of the comments follows.

DISCUSSION

Laytonville Fire House Proposed Site

- | | | |
|---|--|---|
| <p>WHAT WORKS?
Facilitators, Advantages of Using Proposed Site</p> <ul style="list-style-type: none"> • The Laytonville Fire House is a good site. • Good walkability to the downtown area. • There is a beautification grant coming for the downtown area. | <p>WHAT DOESN'T WORK?
Challenges, Barriers to Using Proposed Site</p> <ul style="list-style-type: none"> • It's a gravel yard with no shade and near the office is not a better spot; consider a cover | <p>ALTERNATIVES suggested</p> <ul style="list-style-type: none"> • Private businesses in the downtown area – Geigers Long Valley Market, Boomers and Gravers Chevron Station (NOT Harwood Hall, it is too remote) |
|---|--|---|

Camp 20 Site

- | | | |
|--|---|---|
| <p>WHAT WORKS?
Facilitators, Advantages of Using Proposed Site</p> <ul style="list-style-type: none"> • Lots of positives: • No downside. | <p>WHAT DOESN'T WORK?
Challenges, Barriers to Using Proposed Site</p> <ul style="list-style-type: none"> • There are no feasible alternatives | <p>ALTERNATIVES suggested</p> <ul style="list-style-type: none"> • None identified. |
|--|---|---|

Leggett – Brainstorm Possible Sites

- | | |
|---|--|
| <p>POSSIBLE SITES</p> <ul style="list-style-type: none"> • The Leggett Fire house may be a good site. • Caltrans rest area (however, some rest areas are closed part of the year) • Confusion Hill north of Leggett • Suggest Humboldt complete linkage with Garberville • Highway 101 & 162 (Longvale) | <p>NEXT STEPS</p> <ul style="list-style-type: none"> • Conduct Field Review of the Leggett Fire House; Contact Volunteer Fire Chief • Conduct Field Review of the Peg House |
|---|--|

Willits – Brainstorm Possible Sites

POSSIBLE SITES

- Highway 20 Parkway (101/20 Intersection). Looks convenient, meets public criteria, city property, convenient for tourists. Green stripe, southwest corner. There are traffic circulation problems but they can be overcome with good design. This spot serves the coastal traffic and is close to commercial activity and downtown Willits.
- Other city lots such as downtown parking lots (no public property on South Main)
- Dry cleaners parking lot on West Mendocino Avenue.
- Parking lot adjacent to Main Street Music & Video near other downtown merchants
- Chase Bank / J.D. Redhouse Mercantile parking lot.
- KOA? Not public but may want to offer charging; has concessions and recreation; distant from town.
- Evergreen Shopping Center at south end of Willits (private)

NEXT STEPS

- [City Manager participated in discussion at the community forum:] Next steps: assess site and discuss findings with City Manager

General Comments about the Public Network System

- “Dwell time” is an issue (for all sites) and keeping non-EV cars out of the charging station space (for all sites)
- Need to emphasize ALL Caltrans rest areas (however, note that some rest stops are closed in the winter)
- Need station in Branscomb (at the Fire House?)

Appendix E

COMMUNITY FORUM - BOONVILLE

June 10, 2015 – Mendocino County Veterans Memorial Building

BACKGROUND AND METHODOLOGY

This community forum was one of five forums conducted in Mendocino County in May-June, 2015. The agenda included a presentation of the proposed public network of plug-in electric vehicle charging stations including criterion for site selection, the countywide location map and proposed charging station sites within the central county area. Proposed sites were Yorkville Market and Navarro Store. Each proposed site was then discussed one-by-one. Participants were asked to identify the following on a site-by-site basis: what worked about the proposed site, what didn't work and recommendations for alternative sites (if any). Since a DC Fast Charger was going into the Boonville Hotel site selected in Booneville, possible additional sites were brainstormed for the Boonville community. Note that there were differences of opinions among participants and these differences of opinion are noted below. A summary of the comments follows.

DISCUSSION

Yorkville Market Alternative Proposed Site*

WHAT WORKS?	WHAT DOESN'T WORK?	ALTERNATIVES suggested
<p>Facilitators, Advantages of Using Proposed Site</p> <ul style="list-style-type: none"> • Recommended by the Community Benefits Association and President Valerie Hanelt. • Store owner is interested in serving as a site host. • A market, refreshments and food • There is power on site • Lots of parking. • Mid-point between Cloverdale and Boonville, central meeting point. 	<p>Challenges, Barriers to Using Proposed Site</p> <ul style="list-style-type: none"> • Private property • Not central. [to what?] 	<ul style="list-style-type: none"> • No alternatives are available.

*Note that the Yorkville Fire Station and Post Office declined "host" designation.

Navarro Store Proposed Site

WHAT WORKS?	WHAT DOESN'T WORK?	ALTERNATIVES suggested
<p>Facilitators, Advantages of Using Proposed Site</p> <ul style="list-style-type: none"> • The site is always accessible and there are lots of parking spaces • power/utilities. • Café, groceries when store is open. • It is a community gathering place in Navarro – various activities and musical events. • There are County and Caltrans easements. 	<p>Challenges, Barriers to Using Proposed Site</p> <ul style="list-style-type: none"> • Market is privately owned • single commercial use • somewhat isolated, safety concern 	<ul style="list-style-type: none"> • No alternatives are available.

Boonville – Brainstorm Possible Sites

POSSIBLE SITES

- County DOT Transportation Yard
- Caltrans Site
- Anderson Valley Health Clinic
- Redwood Drive-In

WHAT WORKS?

Facilitators, Advantages of Using Proposed Site

- Identified as “county lot” on the map. It’s close to downtown and is public property.
- Public property
- Infrastructure available
- Locals would likely use the charging station site
- Multimodal connection as it is right next to the airport.
- Centrally located, near Boonville Hotel which will have a DC Fast Charger, serves the whole community
- Parking is available
- Willing site host in 1999, compatible use with gas station onsite.

WHAT DOESN'T WORK?

Challenges, Barriers to Using Proposed Site

- Lot may be too close to Boonville Hotel where new public charger will be installed soon [why is this disadvantage here, but advantage at Redwood Drive-In?], fenced, needs modification.
- Remote location, too far from downtown area.
- Distance from downtown, a little far
- Private ownership.
- Close to Boonville Hotel Charger [contradicts statement under What Works], private ownership.

NEXT STEPS

- Due to a DC Fast Charger being installed downtown, and that there were no feasible sites at least 1 mile away, a feasible alternative site for the public network was not identified.

A possible location for an alternative site, which was not discussed during the community forum, is Philo.

Appendix F

FIELD REVIEWS OF ALTERNATIVE SITES

FIELD REVIEW - HWY 1 – GUALALA (Caltrans Right of Way, West Side of Hwy 1)

Contact: Robert Juengling, Gualala Municipal Advisory Council
Agency: Caltrans
Result of contact: Contact not yet attempted with Caltrans.

Type of parking: Off-street striped___, Off-street ____, On-street ✓, Undeveloped ✓,
 Comments: There is a strip along the west side of the highway. The best location for a charging station would be 200' north of Center St., on the west side of Highway 1 (immediately south of Breakers Inn).

Type of service: 110V ✓ 240V ✓,480V___
 Comments: 480V is unknown.

Times available: 24-7___ Days ___ - ___, Hours ___am-___pm, Dawn-Dusk ✓,
 Comments:

Would fee be required: No fee___, kWh only___, Additional fee___
 Comments: TBD.

Ease of access: Very easy ✓ _____ Very hard
 Comments:

Site benefits: Lots of benefits ✓ _____ No benefits
 Comments:

Type of zoning: Compatible zoning ✓ _____ Difficult zoning
 Comments:

Type of communication signal: Cell ✓, Land line ✓, Other _____
 Comments:

Safety: Very safe ✓ _____ Very hazardous
 Comments:

Flooding: Very safe ✓ _____ Very hazardous
 Comments:

Activities close by: Lots of activities ✓ _____ No activities
 Comments:

Overall Rank: Very high ✓ _____ Very low
 Comments:

Photo(s):



FIELD REVIEW - HWY 1 – ELK POST OFFICE

Contact: Postmaster Melissa Hays
Agency: US Post Office, 5995 S. Highway 1, 707-877-3232
Result of contact: Building is leased from Arthur Williams, P.O. Box 588, Mendocino, 707-937-0652 and Peter Lit, 707-877-3215. Owners rejected potential host site designation.

Type of parking: Off-street striped , Off-street___, On-street___, Undeveloped___
 Comments:

Type of service: 110V 240V___480V___
 Comments: Not sure if 240V is available.

Times available: 24-7 Days ___ - ___, Hours ___am-___pm, Dawn-Dusk___
 Comments:

Would fee be required: No fee___, kWh only___, Additional fee___
 Comments:

Ease of access: Very easy ___ ___ ___ ___ Very hard
 Comments:

Site benefits: Lots of benefits ___ ___ ___ ___ No benefits
 Comments:

Type of zoning: Compatible zoning ___ ___ ___ ___ ___ Difficult zoning
 Comments: Unknown

Type of communication signal: Cell___, Land line , Other _____
 Comments:

Safety: Very safe ___ ___ ___ ___ Very hazardous
 Comments:

Flooding: Very safe ___ ___ ___ ___ Very hazardous
 Comments: Next to a dry creek bed; see flood zone map.

Activities close by: Lots of activities ___ ___ ___ ___ ___ No activities
 Comments:

Overall Rank: Very high ___ ___ ___ ___ ___ Very low
 Comments: No other good alternatives in the area. However, MLT will put one in the state park. Maybe consider Albion or Little River as a charging station site.

Photo(s):



FIELD REVIEW - HWY 101 – THE LEGGETT FIRE HOUSE

Contact:

Agency:

Result of contact: Tatiana Ahlstrand from Caltrans conducted a field review of this site. See results below.

Type of parking: Off-street striped___, Off-street___, On-street___, Undeveloped

Comments:

Type of service: 110V___240V___480V___

Comments:

Times available: 24-7___ Days ___ - ___, Hours ___am-___pm, Dawn-Dusk___

Comments: There was no one there on a Thursday morning at either the Volunteer Fire Department or the Community Center. It's unclear when either are open. This would probably not be a good place to be in the late hours.

Would fee be required: No fee___, kWh only___, Additional fee___

Comments:

Ease of access: Very easy ___ ___ ___ ___ Very hard

Comments: I found it confusing to find and had to ask someone at the Post Office to make sure I was going to the correct place (there are multiple fire stations within the Leggett area). Once I found it, it was not very far from US 101 which is good. It is also just before you reach the turn off for State Route 1 which is good for travelers going to the coast.

Site benefits: Lots of benefits ___ ___ ___ ___ No benefits

Comments: Its proximity to US 101 with SR 1.

Type of zoning: Compatible zoning ___ ___ ___ ___ ___ Difficult zoning

Comments:

Type of communication signal: Cell___, Land line___, Other _____

Comments: There was no cell service. There may be a landline inside the Volunteer Fire Department or the Bill Ochoa Community Center, but there was no one there to confirm that.

Safety: Very safe ___ ___ ___ ___ ___ Very hazardous

Comments: I did not feel safe there. There was no one around. There was no one there on a Thursday morning and the Bill Ochoa Community Center looked dilapidated and unfriendly. The site did not have any shade and I would imagine that it would be VERY dark at night.

Flooding: Very safe ___ ___ ___ ___ ___ Very hazardous

Comments: Outside the flood zone.

Activities close by: Lots of activities ___ ___ ___ ___ ___ No activities

Comments: There is a market about a quarter of a mile down the road. The "Drive Through Tree" is about 1.5 miles away, but you would need a car to drive through it and the shoulders are quite narrow along State route 271 in that section. The site itself has no shade.

Overall Rank: Very high ___ ___ ___ ___ ___ ___ Very low

Comments: Not a suitable site for a PEV charging station.

Photo(s):



FIELD REVIEW - HWY 101 – THE PEG HOUSE, LEGGETT

Contact: Gary Ballard, Owner
Agency: The Peg House, 707-925-6444, thepeghouse@hughes.net
Result of contact: Tatiana Ahlstrand from Caltrans met with the owner and he was very enthusiastic with the idea of having a charging station on site.

Type of parking: Off-street striped , Off-street___, On-street___, Undeveloped___
 Comments:

Type of service: 110V___240V___480V___
 Comments:

Times available: 24-7___ Days ___ - ___, Hours ___am-___pm, Dawn-Dusk___
 Comments: The Peg House is open from 7:00 a.m. to 9:00 p.m. daily, closing an hour earlier in the winter season. After it closes, the site becomes very dark and quiet (this was according to the owner).

Would fee be required: No fee___, kWh only___, Additional fee___
 Comments:

Ease of access: Very easy ___ ___ ___ ___ Very hard
 Comments: Directly adjacent to US 101 near the confluence with State Route 1. There is enough shoulder to pull over safely and enter the facility.

Site benefits: Lots of benefits ___ ___ ___ ___ No benefits
 Comments: One major benefit is the owner’s enthusiasm for a charging station. He says he would like to get rid of existing fuel tanks and turn it into a “vintage style” charging station. He was excited with the idea and is willing to help in any way that he can.

Type of zoning: Compatible zoning ___ ___ ___ ___ ___ Difficult zoning
 Comments:

Type of communication signal: Cell___, Land line___, Other _____
 Comments: Verizon Wireless and US Cellular are spotty here. There is a landline in the mini-mart. The owner says Verizon has communicated that they would like to erect a cell tower in the area.

Safety: Very safe ___ ___ ___ ___ Very hazardous
 Comments: It is hard to say but the location does have many “eyes on the street” during the daytime with a busy highway and several people stopping through. The owner said that the only problem he’s had is with people siphoning gas from U-Haul trucks he has.

Flooding: Very safe ___ ___ ___ ___ Very hazardous
 Comments: Outside the flood zone.

Activities close by: Lots of activities ___ ___ ___ ___ ___ No activities
 Comments: Although the Peg House is located in very rural Mendocino County, there are some attractions to this location. For example, there are plenty of people stopping through to make it attractive, there is an amphitheater/band shell for shows, there are restrooms which are kept clean, there is a mini-mart, an outdoor seating area with flowers and shade, a kitchen selling hot food, a small kiosk with visitor information, and a campground across the street with a Ranger.

Overall Rank: Very high ___ ___ ___ ___ Very low
 Comments:

Photo(s):



FIELD REVIEW - HWY 20 & 101 PARKWAY– WILLITS

Contact: City Manager Adrienne Moore
Agency: City of Willits
Result of contact: City Manager is supportive of this location (attended Willits Community Forum).

Type of parking: Off-street striped___, Off-street___, On-street___, Undeveloped
 Comments: Park is 72 feet wide by approx. 2,000 feet long. Parking is available on street/highway.

Type of service: 110V___240V___480V
 Comments: Power pole has 3-phase option available.

Times available: 24-7 Days ___ - ___, Hours ___am-___pm, Dawn-Dusk___
 Comments:

Would fee be required: No fee___, kWh only___, Additional fee___
 Comments: TBD.

Ease of access: Very easy ___ ___ ___ ___ Very hard
 Comments:

Site benefits: Lots of benefits ___ ___ ___ ___ No benefits
 Comments:

Type of zoning: Compatible zoning ___ ___ ___ ___ Difficult zoning
 Comments: City park.

Type of communication signal: Cell , Land line___, Other _____
 Comments:

Safety: Very safe ___ ___ ___ ___ Very hazardous
 Comments:

Flooding: Very safe ___ ___ ___ ___ Very hazardous
 Comments: Next to a dry creek bed; see flood zone map.

Activities close by: Lots of activities ___ ___ ___ ___ No activities
 Comments:

Overall Rank: Very high ___ ___ ___ ___ ___ Very low
 Comments: A driveway and parking would need to be developed off street, and ADA compliance is potentially costly.

Photo(s):



FIELD REVIEW – CITY LOT @ SCHOOL ST. – WILLITS

Contact: City Manager Adrienne Moore
Agency: City of Willits
Result of contact: Refer to ZEV Community forum attended; City Manager is supportive of this location.

Type of parking: Off-street striped , Off-street___, On-street___, Undeveloped___
 Comments: Ideal location is under tree (see photos below).

Type of service: 110V___240V___480V___
 Comments:

Times available: 24-7 Days ___ - ___, Hours ___am-___pm, Dawn-Dusk___
 Comments: Restricted by City code from 2 a.m. to 6 a.m.

Would fee be required: No fee___, kWh only___, Additional fee___
 Comments: TBD.

Ease of access: Very easy ___ ___ ___ ___ Very hard
 Comments:

Site benefits: Lots of benefits ___ ___ ___ ___ No benefits
 Comments:

Type of zoning: Compatible zoning ___ ___ ___ ___ Difficult zoning
 Comments:

Type of communication signal: Cell , Land line , Other _____
 Comments:

Safety: Very safe ___ ___ ___ ___ Very hazardous
 Comments:

Flooding: Very safe ___ ___ ___ ___ Very hazardous
 Comments:

Activities close by: Lots of activities ___ ___ ___ ___ No activities
 Comments:

Overall Rank: Very high ___ ___ ___ ___ Very low
 Comments: There are 48 public (4 handicapped) and 6 reserved parking spaces. Central downtown location, walk to all service types.

Photo(s):



FIELD REVIEW - HWY 101 – CROSSROADS SHOPPING CENTER UKIAH

Contact:

Agency:

Result of contact: Owner of the property has not yet been identified.

Type of parking: Off-street striped , Off-street___, On-street___, Undeveloped___

Comments: Large shopping center parking lot, visible from main artery, North State Street, ½ block away.

Type of service: 110V___240V___480V___

Comments: Not sure. There is plenty of power, 3 telephone/power poles close by service commercial area.

Times available: 24-7 , Days ___ - ___, Hours ___ - ___, Dawn-Dusk___

Comments:

Would fee be required: No fee___, kWh only___, Additional fee___

Comments: TBD, private ownership.

Ease of access: Very easy _____ Very hard

Comments: Southwest corner of parking lot, most direct access via Ford Road, near freeway interchange

Site benefits: Lots of benefits _____ No benefits

Comments: Stores, restaurants, bank, services, shade trees, lighting, pavement, power, access.

Type of zoning: Compatible zoning___ _____ Difficult zoning

Comments: Commercial zone, private property.

Type of communication signal: Cell , Land line , Other _____

Comments:

Safety: Very safe _____ Very hazardous

Comments: Stores open late, space is close to gas station/mini-market.

Flooding: Very safe _____ Very hazardous

Comments:

Activities close by: Lots of activities___ _____ No activities

Comments: Personal services (beauty), bowling alley, golf driving range, not much outdoor recreation

Overall Rank: Very high _____ Very low

Comments: Great site for a charging station.

Photo(s):



FIELD REVIEW - HWY 101 – CITY OF UKIAH CORPORATION YARD @ AIRPORT ROAD

Contact: Rick Seanor, Deputy Director Public Works
Agency: City of Ukiah, 707-463-6296, rseanor@cityofukiah.com
Result of contact: Mr. Seanor indicated that due to security concerns, the charging station would need to be located outside the fence; would need to consider how best to provide the electrical service at the proposed location for the charging station. Another consideration would be to locate the charging station near a street light to provide added visibility / security during dark hours.

Type of parking: Off-street striped , Off-street___, On-street___, Undeveloped___
 Comments: Ample parking, southwest corner of Commerce Drive and Airport Rd.

Type of service: 110V___240V___480V___
 Comments: There is a power pole at the site.

Times available: 24-7 , Days ___ - ___, Hours ___ - ___, Dawn-Dusk___
 Comments: Outside of gate.

Would fee be required: No fee___, kWh only___, Additional fee___
 Comments: TBD, this is city property, municipal utility.

Ease of access: Very easy ___ ___ ___ ___ Very hard
 Comments: Not far from both South state Street and US-101, but not visible, may need map to locate.

Site benefits: Lots of benefits ___ ___ ___ ___ No benefits
 Comments: Public property, lots of parking, lighting on pole, nearby activities, no shade.

Type of zoning: Compatible zoning ___ ___ ___ ___ Difficult zoning
 Comments: Industrial? Adjacent to commercial area.

Type of communication signal: Cell , Land line , Other _____
 Comments:

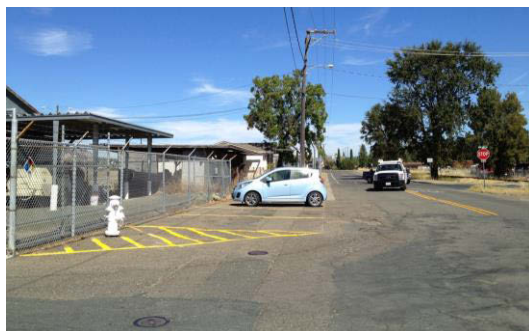
Safety: Very safe ___ ___ ___ ___ ___ Very hazardous
 Comments: Somewhat isolated, out of sight/hearing. Short walk to 3 hotels, several restaurants. Trailer-truck traffic could pose a hazard.

Flooding: Very safe ___ ___ ___ ___ ___ Very hazardous
 Comments:

Activities close by: Lots of activities ___ ___ ___ ___ No activities
 Comments: Lots of shopping, restaurants, Starbucks Coffee – all within one block.

Overall Rank: Very high ___ ___ ___ ___ ___ Very low
 Comments:

Photo(s):



FIELD REVIEW - HWY 101 – HOPLAND FIRE STATION (BEHIND BRUTACAO)

Contact: John Chief John Bartlett
Agency: 707-744-1222, chief@hoplandfire.org
Result of contact: Spoke with Chief Bartlett and Board Chair Steven Leonard 744-1453 – are supportive but undecided as they have questions regarding where the charging station would be and have concerns about interference with the traffic flow of emergency vehicles entering and leaving the site.

Type of parking: Off-street striped___, Off-street , On-street___, Undeveloped
 Comments: Grass and gravel parking lot.

Type of service: 110V___240V 480V___
 Comments:

Times available: 24-7 Days ___ - ___, Hours ___am-___pm, Dawn-Dusk___
 Comments:

Would fee be required: No fee___, kWh only___, Additional fee___
 Comments:

Ease of access: Very easy ___ ___ ___ ___ Very hard
 Comments: Benefit: just off of Highway 101; Drawback: crossing onto/off of Mountain House Rd. from/to 101.

Site benefits: Lots of benefits ___ ___ ___ ___ No benefits
 Comments:

Type of zoning: Compatible zoning ___ ___ ___ ___ ___ Difficult zoning
 Comments: Unknown zoning; may be emergency vehicle restrictions

Type of communication signal: Cell , Land line , Other _____
 Comments:

Safety: Very safe ___ ___ ___ ___ Very hazardous
 Comments: Areas near field are not well lit.

Flooding: Very safe ___ ___ ___ ___ Very hazardous
 Comments: Next to a dry creek bed; see flood zone map.

Activities close by: Lots of activities ___ ___ ___ ___ No activities
 Comments: Wine tasting, restaurants, antiques, Real Goods Store; may be a dangerous crossing over Highway 101.

Overall Rank: Very high ___ ___ ___ ___ Very low
 Comments: Good site for a charging station. Charging station could be located nearer to the power pole rather than across the parking lot, about a 75 foot distance.

Photo(s):



FIELD REVIEW - HWY 128 – YORKVILLE MARKET

Contact: Owner Lisa Walsh
Agency: 707-894-9456, lisa_lou2@yahoo.com
Result of contact: Owner is in complete support of having a charging station on site.

Type of parking: Off-street striped___, Off-street ✓, On-street___, Undeveloped___
 Comments:

Type of service: 110V___ 240V ✓ 480V___
 Comments:

Times available: 24-7___, Days ___ - ___, Hours 6 am-6 pm, Dawn-Dusk___
 Comments:

Would fee be required: No fee___, kWh only___, Additional fee___
 Comments:

Ease of access: Very easy ✓ ___ ___ ___ ___ Very hard
 Comments:

Site benefits: Lots of benefits ___ ✓ ___ ___ ___ No benefits
 Comments:

Type of zoning: Compatible zoning ___ ___ ___ ___ ___ Difficult zoning
 Comments: Unknown

Type of communication signal: Cell___, Land line___, Other _____
 Comments:

Safety: Very safe ✓ ___ ___ ___ ___ Very hazardous
 Comments:

Flooding: Very safe ✓ ___ ___ ___ ___ Very hazardous
 Comments:

Activities close by: Lots of activities ___ ___ ___ ___ ✓ No activities
 Comments: The store sells food/drinks and has a picnic area; otherwise, there are little activities.

Overall Rank: Very high ✓ ___ ___ ___ ___ Very low
 Comments: No other alternatives in the area.

Photo(s):



Appendix G
PEV CHARGING STATION SITE MAPS

Figure 3. Map of Hopland Fire Station

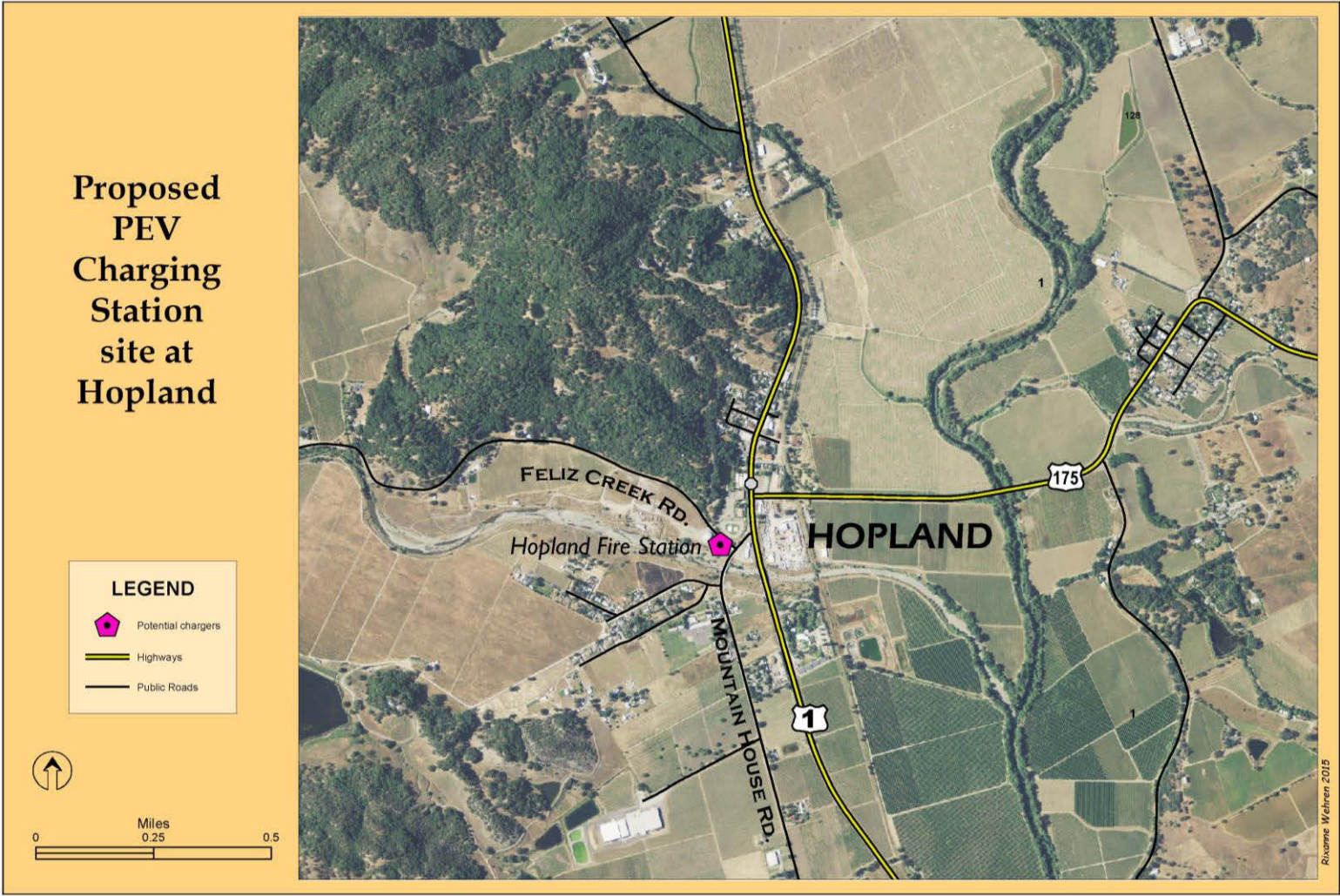


Figure 4. Map of City of Ukiah Corporation Yard at Airport Rd.

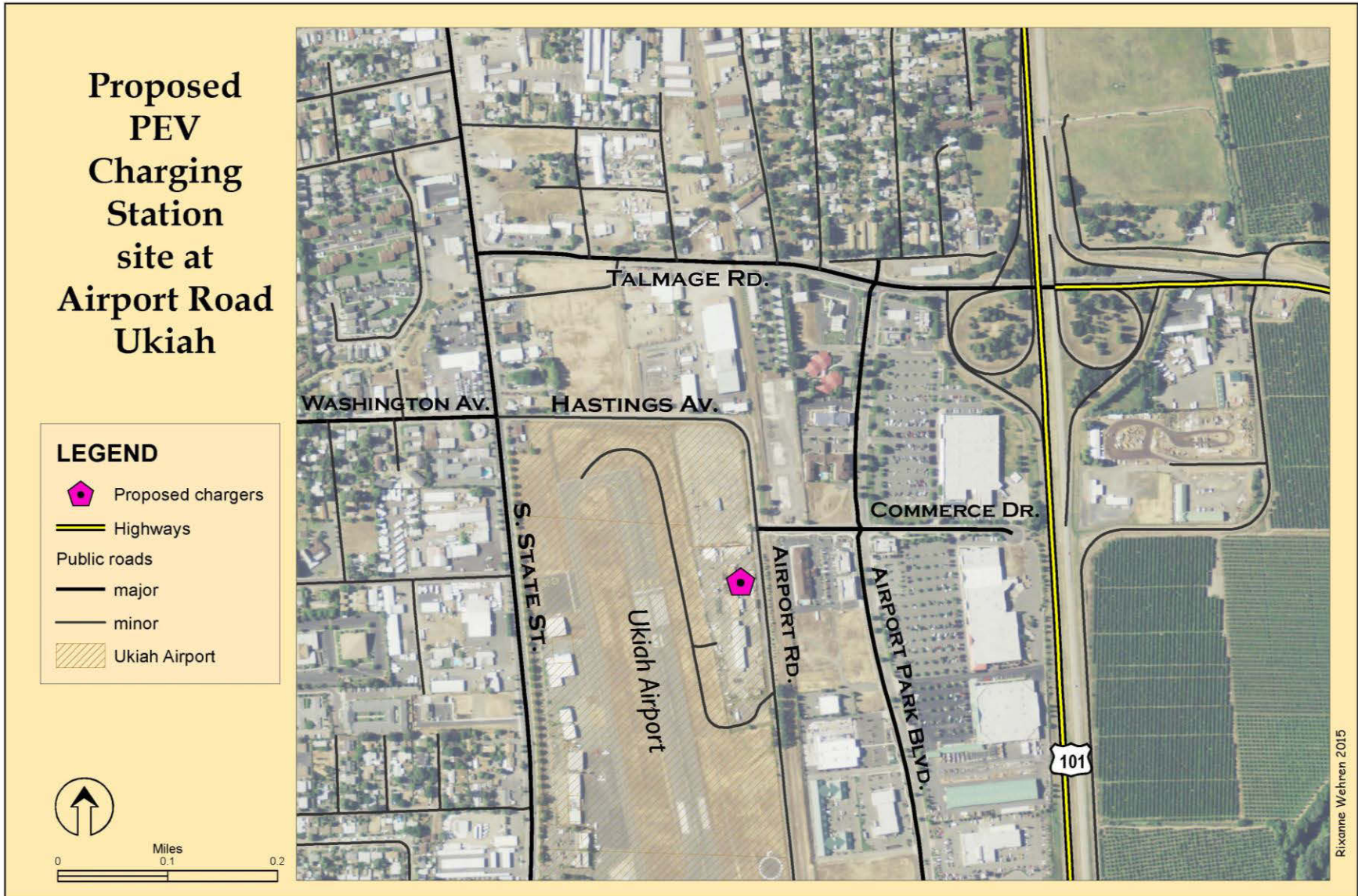


Figure 5. Map of Crossroads Shopping Center - Ukiah

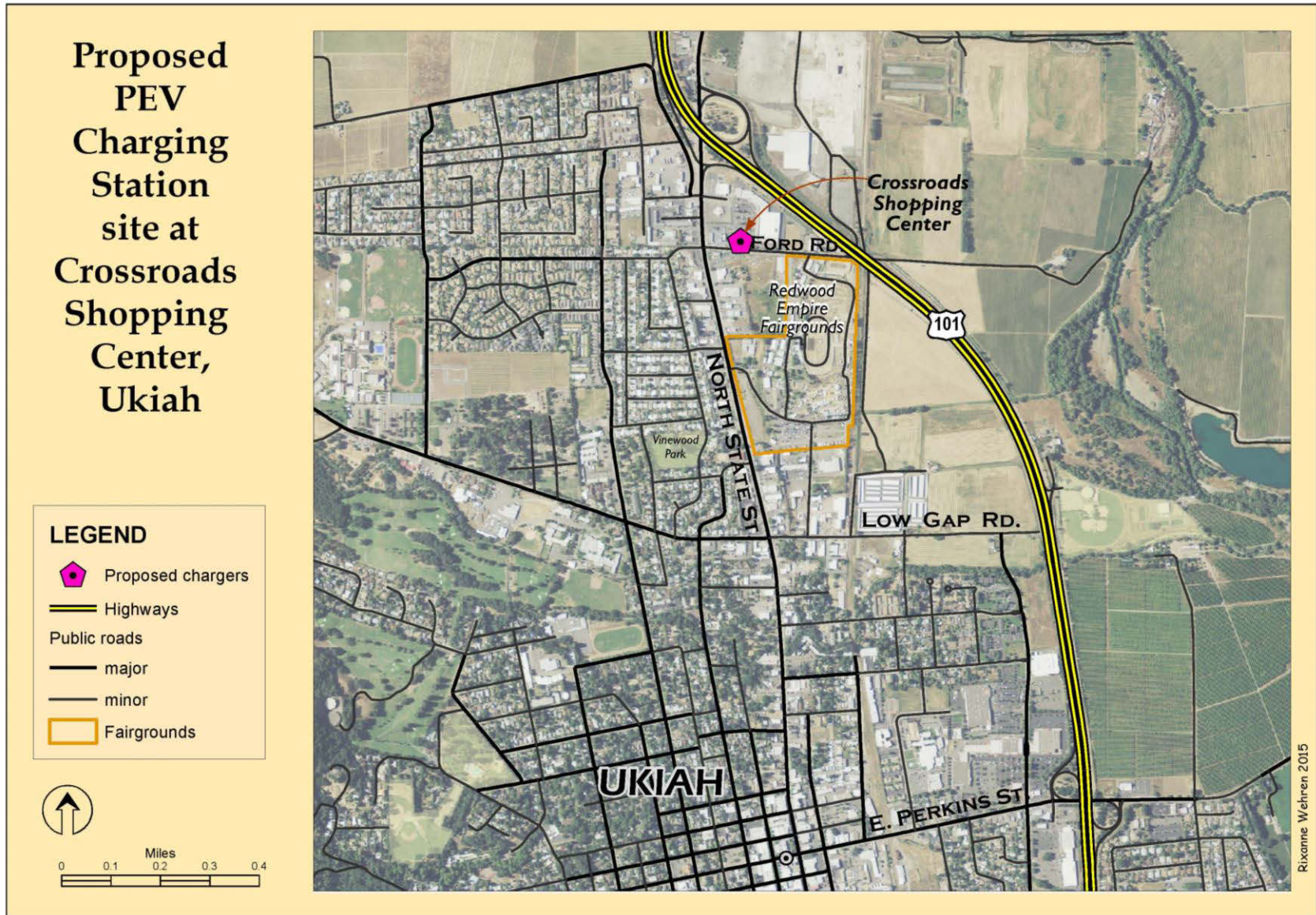


Figure 6. Map of Willits City Lot

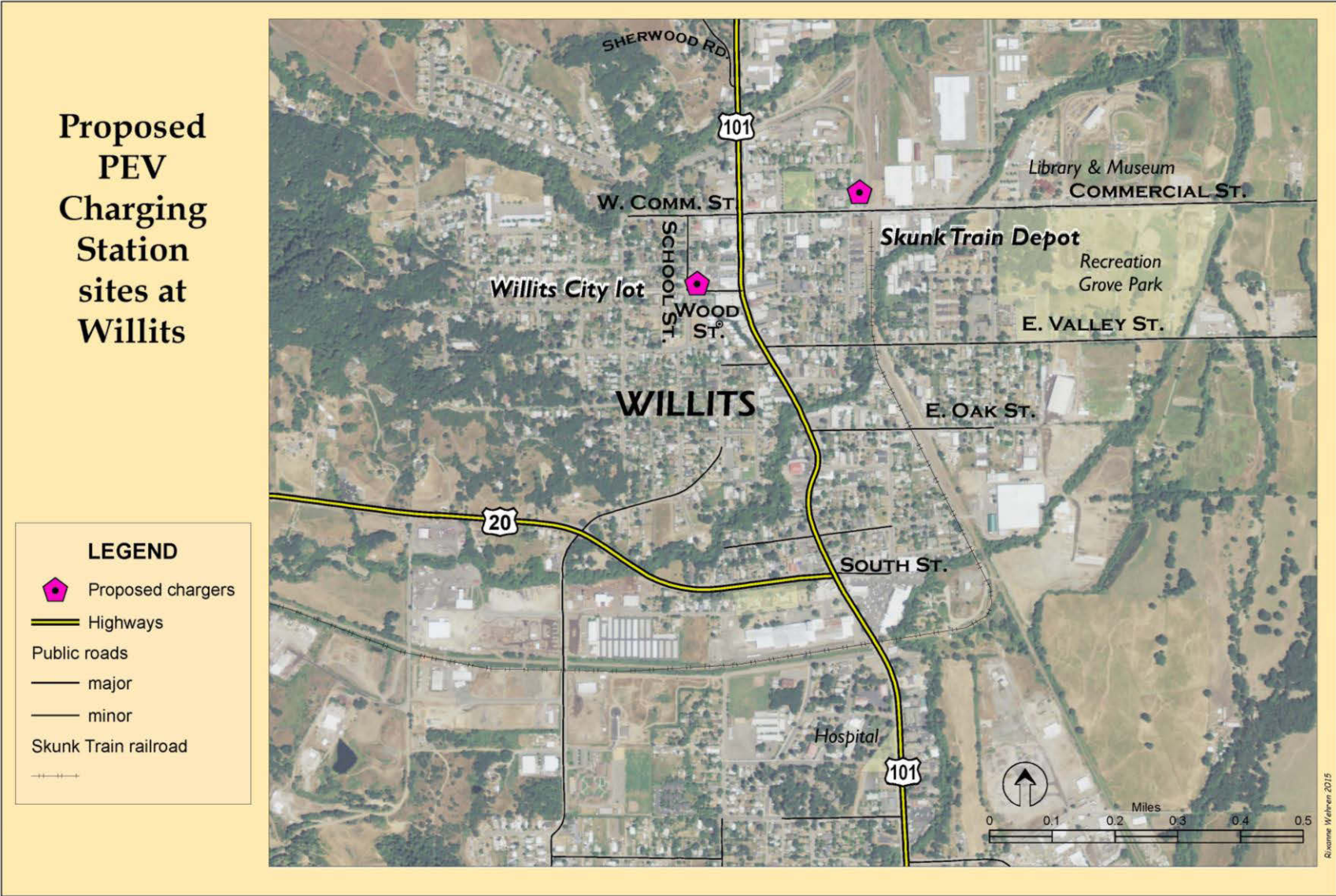


Figure 7. Map of Laytonville Fire House

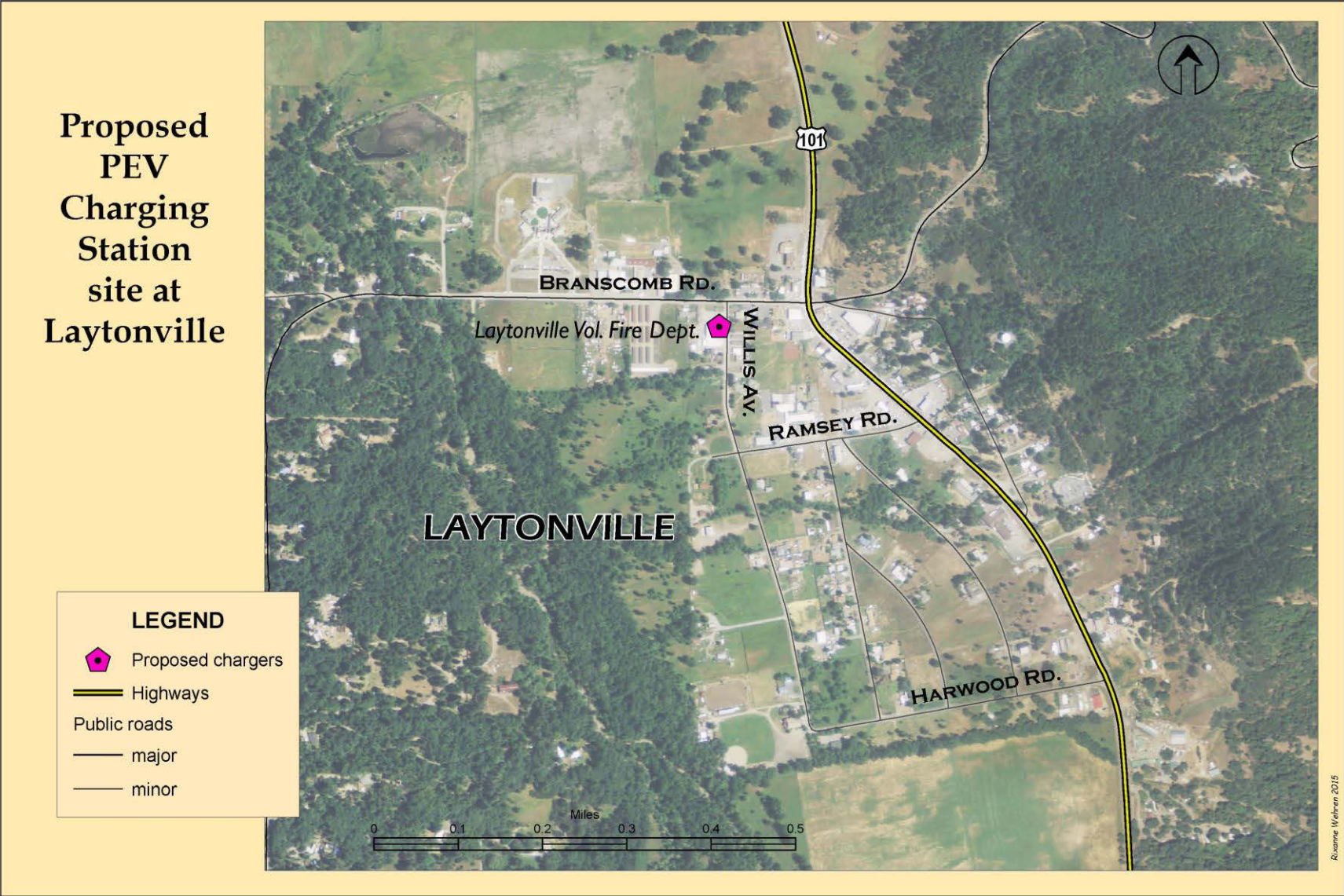


Figure 8. Map of the Peg House - Leggett

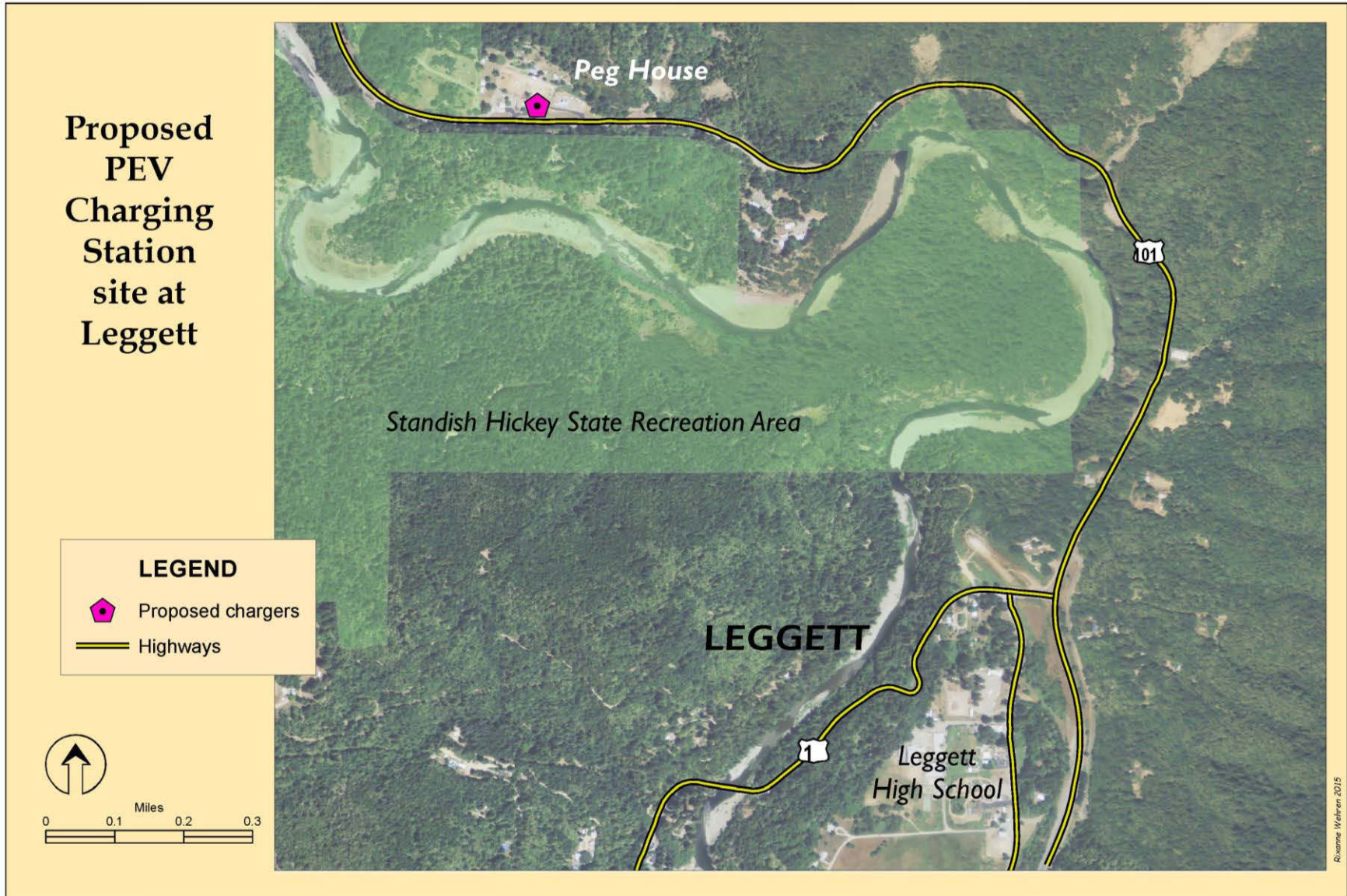


Figure 9. Map of Anderson Valley – Yorkville Market & Navarro Store

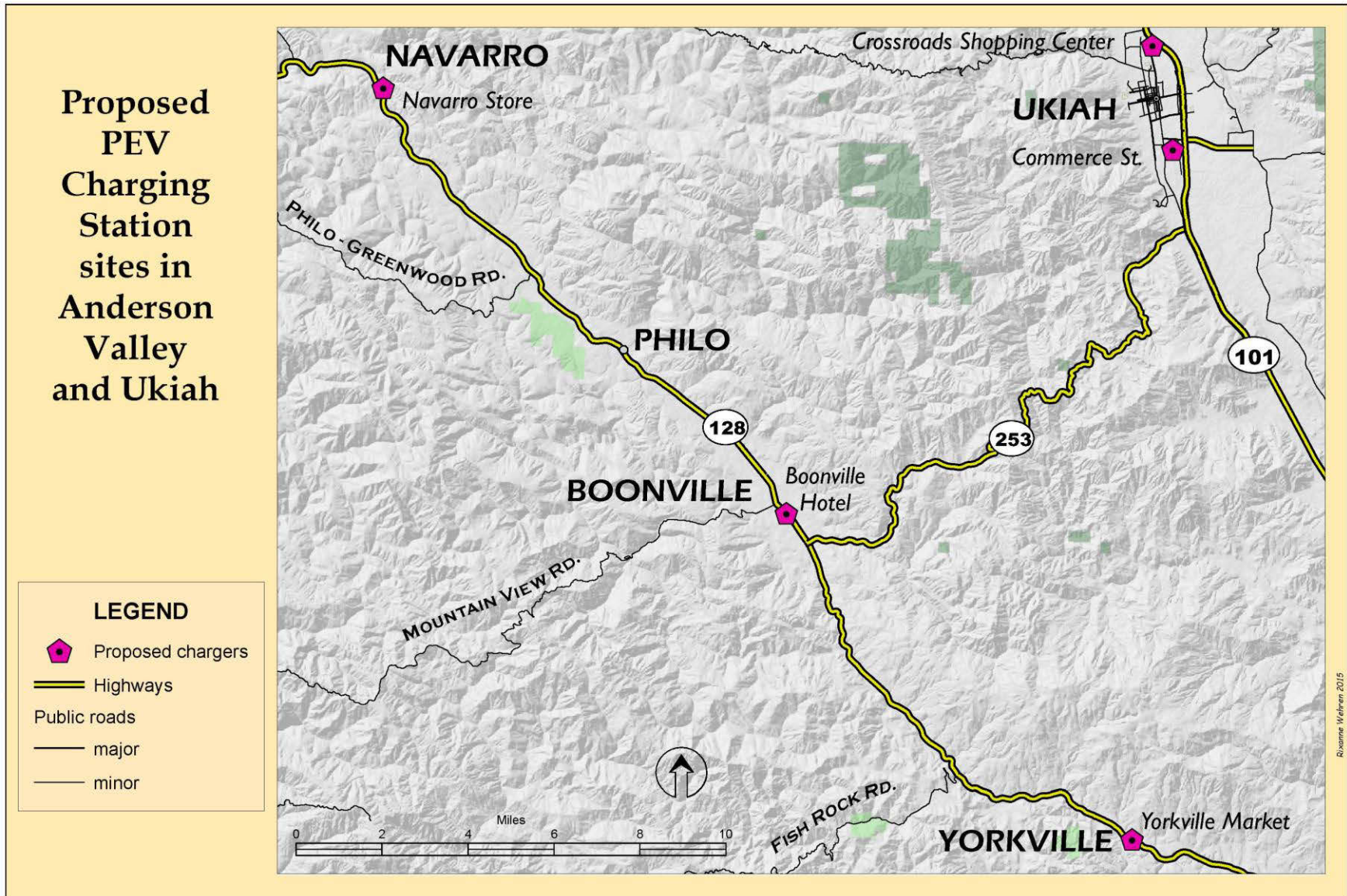


Figure 10. Map of the Caltrans Right of Way - Gualala

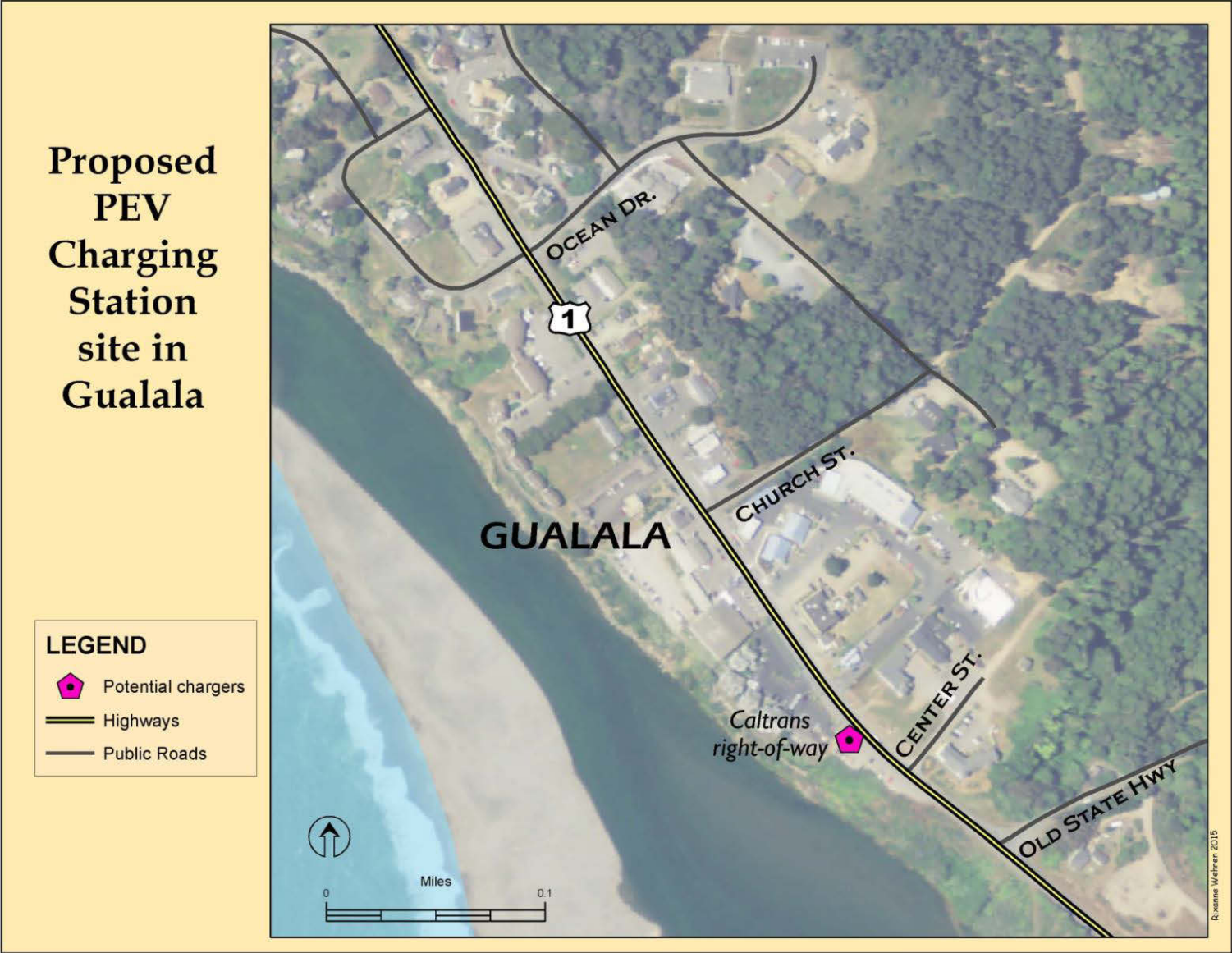


Figure 11. Map of Point Arena City Parking Lot

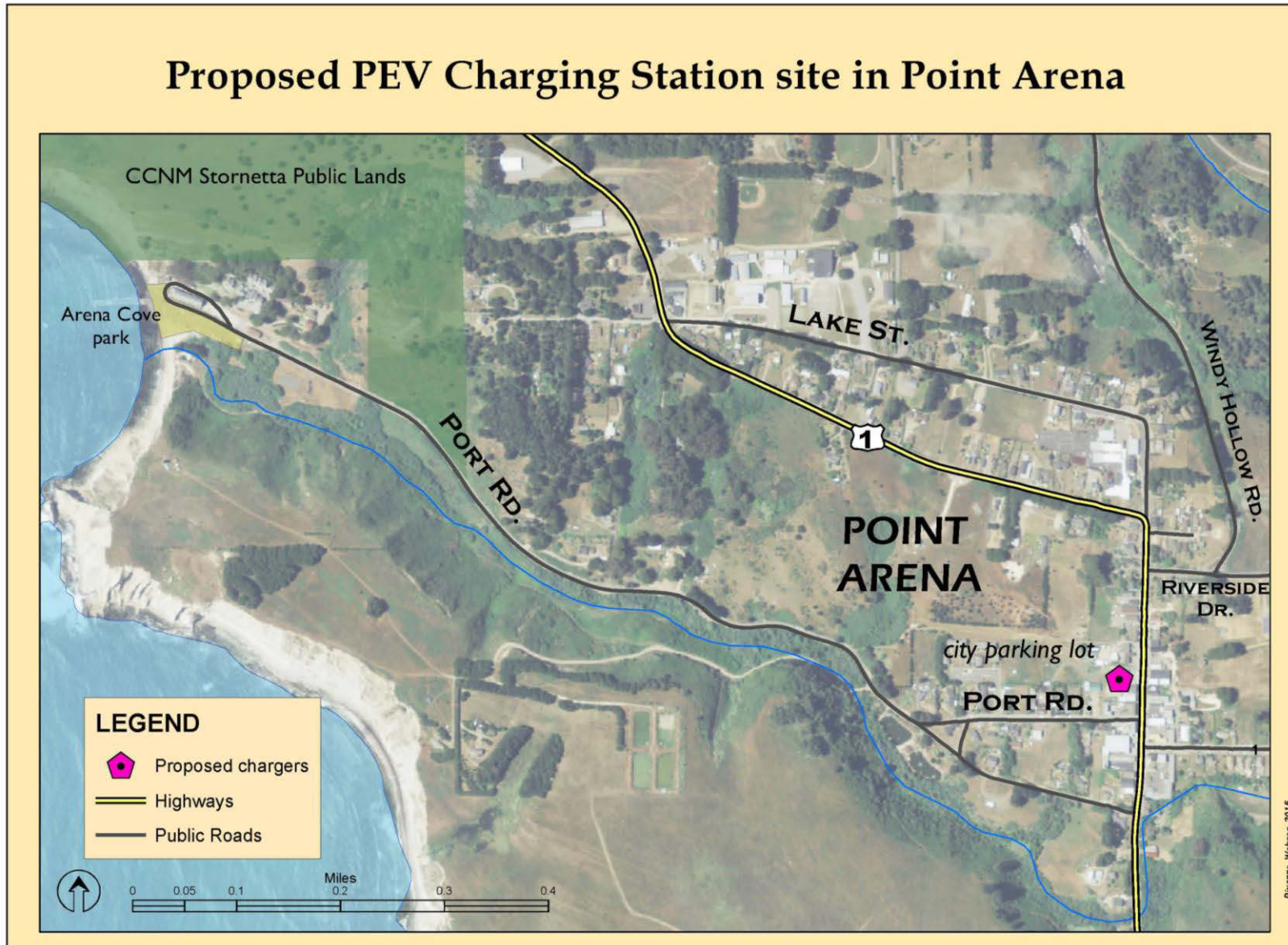


Figure 12. Map of Community Center of Mendocino



Figure 13. Map of Fort Bragg Skunk Train & City Hall

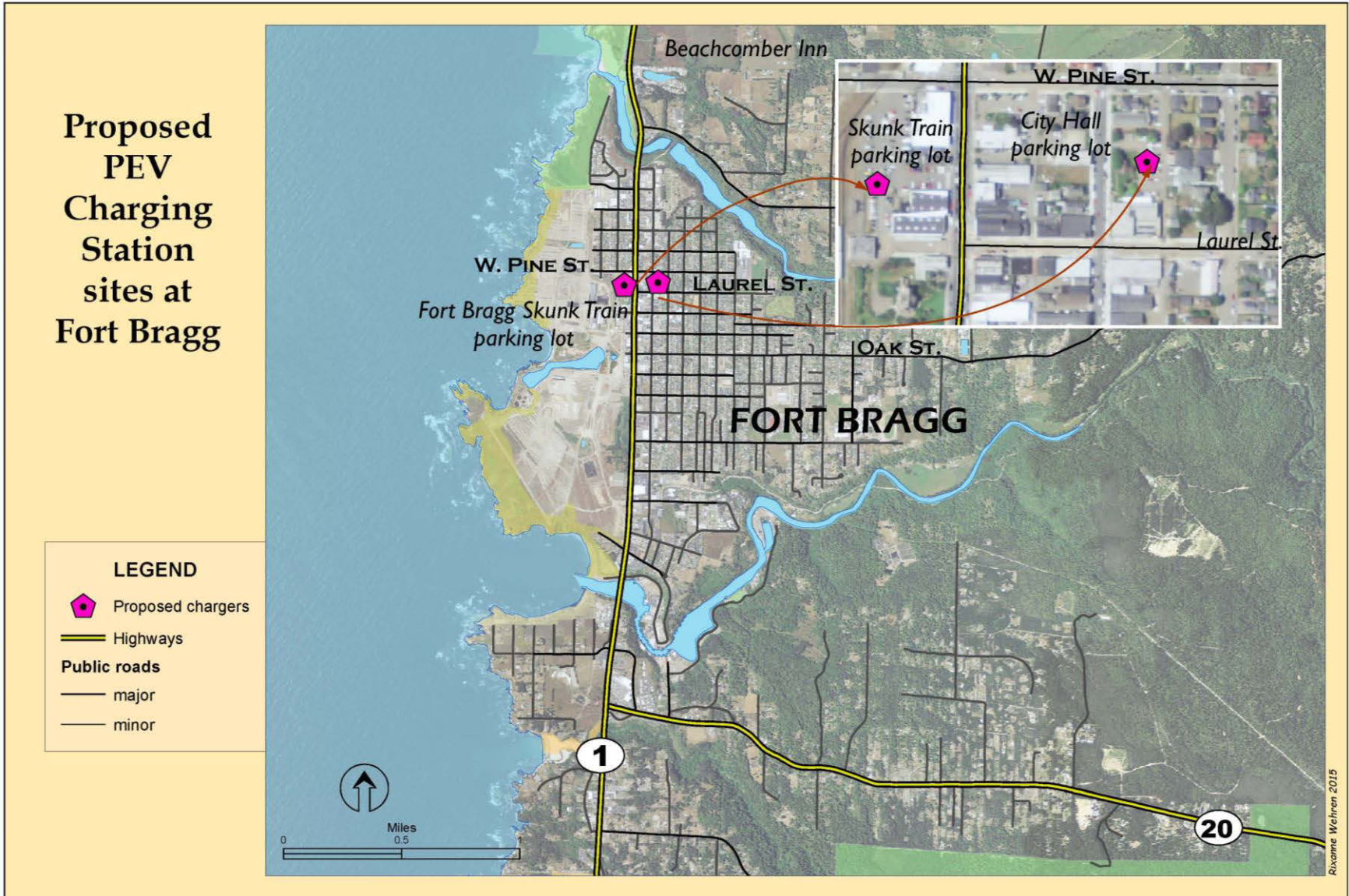


Figure 14. Map of Westport / Abalone St.

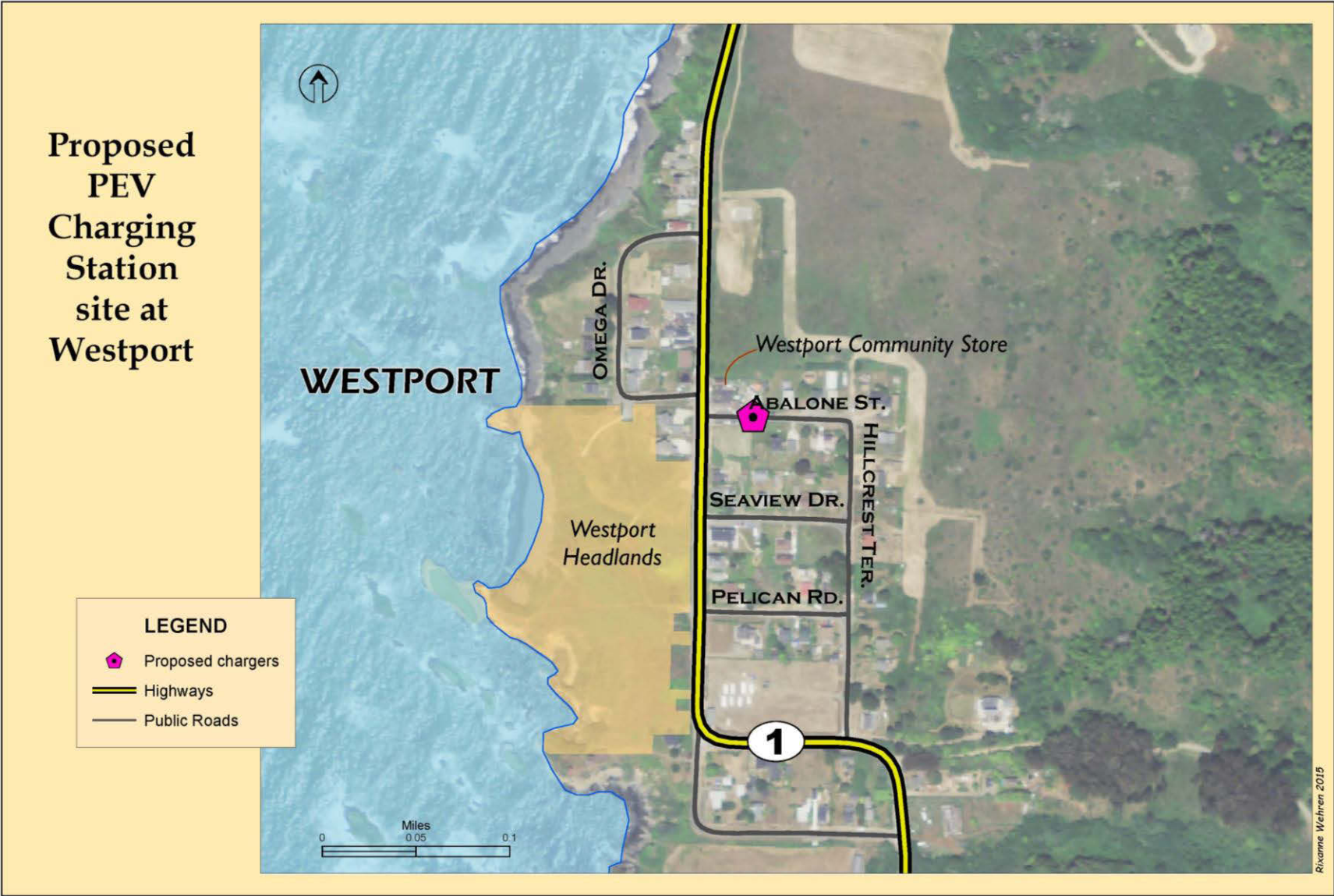


Figure 15. Map of Lake Mendocino Parking Lot (North Lake Boat Ramp)

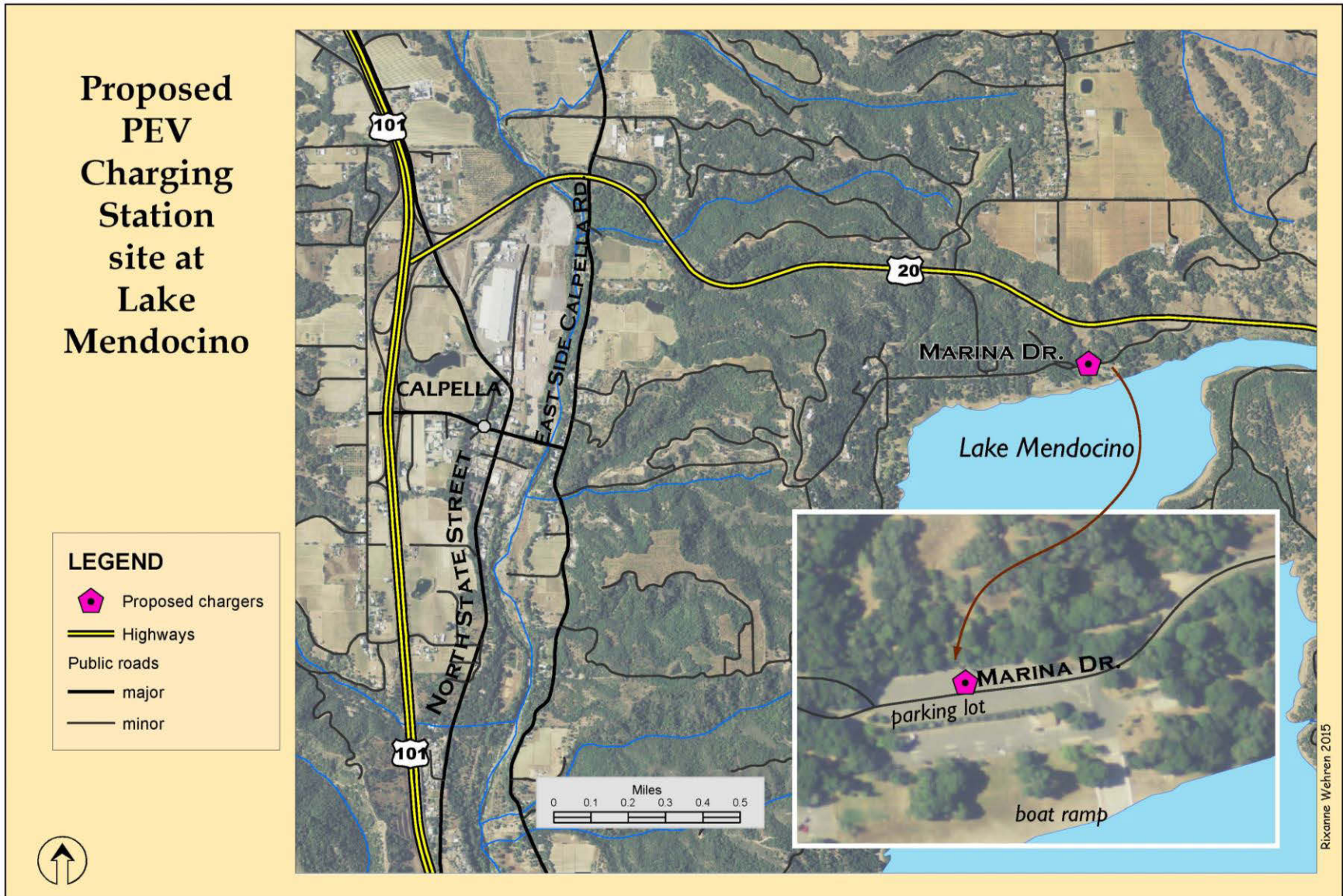


Figure 16. Map of Camp 20 Chamberlain Creek, Jackson Demonstration State Forest



Appendix H

CHARGING EQUIPMENT TYPES / COSTS²⁵**Capital Cost: EVSE Stations, Dual Plug**

	BTC Power	EVSE LLC	Chargepoint	Eaton	
Charging Station	\$ 3,995.00	\$ 3,634.00	\$ 5,592.00	\$ 3,542.50	per station
Payment module, cellular, credit card, greenlots OCPP ready	\$ -	\$ 2,971.00	\$ 430.00	\$ -	per station
Pole for Charger	\$ -	\$ 495.00	\$ -	\$ -	per station
Mounting	\$ -	\$ 495.00	\$ -	\$ -	per station
PG&E Meter Charges	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00	per station
Warranty	\$ -	\$ 1,283.60	\$ 828.20	\$ 141.70	per station
Shipping	\$ 110.00	\$ 75.00	\$ 190.00	\$ 120.00	per station
Tax for station with gateway	\$ 534.19	\$ 915.13	\$ 791.02	\$ 507.87	per station
Tax for station w/out gateway	\$ 359.19	\$ 480.17	\$ 578.39	\$ 332.87	per station
Discount	0%	30%	0%	0%	-
Total w/gateway	\$ 3,319.59	\$ 4,429.32	\$ 4,915.61	\$ 3,156.03	per plug
Total w/out gateway	\$ 2,232.09	\$ 2,364.53	\$ 3,594.30	\$ 2,068.53	per plug

Monthly Service Fees: EVSE Stations, Dual Plug

	BTC Power	EVSE LLC	Chargepoint	Eaton	
Network Fees	\$ 12.00	\$ 5.33	\$ 18.67	\$ 14.83	per plug
Cell Modem Fees	\$ 18.00	\$ 10.00	\$ -	\$ 10.00	per plug
Total	\$ 30.00	\$ 15.33	\$ 18.67	\$ 24.83	per plug

²⁵ Information courtesy of Redwood Coast Energy Authority which performed an extensive study of equipment types. For the purposes of this report, EVSE LLC equipment was selected as it uses open source software, in contrast to Chargepoint which has proprietary software, and includes a payment module.

Appendix I

PUBLIC COMMENT ON DRAFT FEASIBILITY REPORT

October-November 2015

BACKGROUND AND METHODOLOGY

The Draft Feasibility Report was published on October 15, 2015 to public comment. Announcements were made via print and radio media, as well as by direct email to approximately 220 county and city policy makers, EV owners, private businesses and interested community members. The Draft Feasibility Report was posted on www.mendocinocog.org for review and members of the public were invited to submit comments directly via email to the Project's Consultant. Five people submitted emails and three people submitted comments by phone. Comments below are limited to those that are in support of the chosen sites, those that advocate for specific charging station locations or those that disagreed with chosen locations. Also included are comments advocating for additional site amenities. A summary follows.

- I strongly encourage the inclusion of a DC Fast Charger at the Point Arena Pier. There is already 3-phase power available and plenty of parking on well-illuminated public property available 24/7. The location is a significant commercial part of Point Arena as well as being the primary visitor destination in Point Arena. The difficulty of providing 440V power at most of the locations mentioned in the report makes the pier site one of the only practical locations for a true fast charger, something that would be very attractive to travelers in EVs. What would alter my comment is if there is a 3-phase connection in the PG&E junction box next to the proposed site in the city parking lot next to the Theater. A 440 V charging station there would diminish the need to have one at the pier. I would think that the Point Arena station would have a higher priority than is listed on page 21 of your report. Given its strategic location in the middle of the coast and other factors described above, I would suggest a higher priority. I fail to see how a second charger in Ukiah would have a higher priority than even one charger in Point Arena.
- I support the draft report recommendations. *Laytonville Area Municipal Advisory Committee Member*
- I suggest that the site next to the movie theater across from the library on Main Street [in Point Arena] is often congested. The City Hall location, in hindsight, is perhaps too far a walk to downtown for tourists.
- Regarding the proposed charging station in Gualala, a better place for the charging station would be at the Seacliff Motel. There is plenty of parking and it is ADA accessible. Also, the Seacliff is getting ready to upgrade its restroom so that it is ADA compliant. If the charging station is installed on the Caltrans Right of Way, it effectively eliminates needed parking along the highway, especially for trucks.
- There are only a few ideas I would like to add that may help these stations evolve into a little more if possible:

1. The addition of an outdoor bench, picnic table, gazebo, or similar area with the ability to sit outside would be an appropriate upgrade of such designated areas. This may induct a more social atmosphere surrounding the charging station.
2. Since this is a coordinated effort to build an infrastructure for ZEV in Mendocino County, I recommend that an effort be made in “Branding” a marque for these sites.
3. Since there is a question of financial support and funding for such operations, I refer to bus stop weather protected kiosks and benches with have the support of advertisers or sponsors
4. Since this project has a number of remote stations, it may be possible to have a prominent Mendocino County cell services sponsor a WiFi hotspot at such sites and piggyback a weather station / web cam to it. Solar/LED light is a must, especially for safety reasons at night.

**Mendocino County
Zero Emission Vehicle (ZEV)
Regional Readiness Plan – Phase 2
Final Feasibility Report**

For more information contact:

Mendocino Council of Governments
367 North State Street, Suite 206
Ukiah, California 95482
Phone: 707-463-1859

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www.mendocinocog.org

