

AGENDA
CITY OF FERNDALE – HUMBOLDT COUNTY CALIFORNIA – U.S.A.
REGULAR PLANNING COMMISSION MEETING

Location:	City Hall	Date:	September 17, 2014
	834 Main Street	Time:	7:00 pm
	Ferndale CA 95536	Posted:	September 11, 2014

The City endeavors to be ADA compliant. Should you require assistance with written information or access to the facility please call 786-4224 24 hours prior to the meeting.

- 1.0 Call meeting to order / Flag salute / Roll call
- 2.0 Ceremonial
- 3.0 Modifications to the Agenda
- 4.0 Approval of previous minutes
 - 4.1 Minutes of August 20, 2014 Regular Meeting Page 3
- 5.0 Public Comment
- 6.0 Public Hearing (Note: This is the time for commissioners to report any Ex Parte communications on this agenda item.)
 - 6.1 Consider Recommending Draft Ordinance 2014-06 Amending Zoning Ordinance 02-02 Parking and Non-Conforming Use Regulations to City Council for Adoption Page 6
- 7.0 Business (Note: This is the time for commissioners to report any Ex Parte communications on this agenda item.)
 - 7.1 Solar Panel Information and Discussion..... Page 16
 - 7.2 Building and Land Use Permits August 10 – September 9, 2014 Page 30
 - 7.3 Design Review Committee Report & Minutes..... Page 31
- 8.0 Correspondence Page 37
- 9.0 Commissioner Comments
- 10.0 City Planner’s and City Clerk’s Staff Reports
- 11.0 Adjournment

**The next regular meeting of the Ferndale Planning Commission will be on
 October 15, 2014 at 7:00 pm.**

Section 1: CALL MEETING TO ORDER

Section 2: CEREMONIAL

Section 3: MODIFICATION TO THE AGENDA

Section 4: APPROVAL OF PREVIOUS MINUTES

City of Ferndale, Humboldt County, California USA
DRAFT Minutes for Planning Commission Meeting of August 20, 2014

Call to Order — Chair Jorgen Von Frausing-Borch called the Planning Commission to order at 7:02 pm. Commissioners Dean Nielsen and Doug Brower were present along with staff City Clerk Elizabeth Conner, Deputy City Clerk Kristene Tavares, Contract City Planners George Williamson and Leslie Marshall. Commissioners Michael Warner (excused absence) and Lino Mogni (unexcused absence) were not present. Those in attendance pledged allegiance to the flag.

2.0 Ceremonial - None.

3.0 Modifications to the Agenda – None.

4.0 Approval of previous minutes – Commissioner Neilson would like item 6.4 on the July 16, 2014 minutes to be modified. Chair Von-Frausing-Borch recommended eliminating the word “consensus” from the sentence in question. **MOTION:** to approve the minutes of the July 16, 2014 Regular Meeting with the word “consensus” removed from the sentence in item 6.4. **(Brower/Nielsen) 3-0**

5.0 Public Comment – None

6.0 Public Hearing

6.1 Review Draft 2014 Housing Element Update and Draft CEQA Document and Consider Recommending to City Council for Adoption. Contract City Planner George Williamson reported that the requested changes had been made and are shown in red within the document before the commission. He also reminded the Commission that CA Department of Housing and Community Development (HCD) will certify the element with the changes. The Commission commended Planwest for their work on the Housing Element. **MOTION** to recommend to the City Council that the Draft 2014 Housing Element Update and Draft CEQA Document be Approved for adoption. **(Brower/Nielson) 3-0**

7.0 Business

7.1 Recommend to City Council Appointment of Member to Serve on the Design Review Committee. City Clerk Elizabeth Conner reported that the vacancy had been re-advertised and posted and that no other applications had been received. The only applicant is still Mr. Marc Daniels. Mr. Daniels was present and thanked the Commissioners for giving him an opportunity to speak. Commission explained to Mr. Daniels that they were concerned about his attendance for meetings due to his current job. Mr. Daniels explained his current job takes him out of the area annually for a few weeks but assured Commissioners that he would be able to attend most meetings and would give appropriate notice when he cannot. **MOTION:** to recommend to the City Council that Marc Daniels be appointed to the Design Review Committee. **(Brower/Nielson) 3-0**

7.2 Ordinance No. 2014-07 Amending Sign Ordinance 13-02. City Clerk Elizabeth Conner reported that at the August 7, 2014 City Council Meeting, the City Council directed staff to bring

forward amendments to the Sign Ordinance regarding illuminated signs. Staff prepared those Amendments and it is now before the Planning Commission as Ordinance No 2014-07 Amending Sign Ordinance 13-02. Commissioner Brower asked whether the proposed square footage of the illuminated signs would be large enough to cover existing signs. Staff explained that this had been examined and proposed square footage would be sufficient for existing signs. **MOTION** to recommend to the City Council that Draft Ordinance No. 2014-07 Amending Sign Ordinance 13-02 be Approved for adoption. **(Nielson/Brower) 3-0**

7.3 Building and Land Use Permits-No Comments

7.4 Design Review Committee Report and Minutes: Chair Von-Frausing Borch mentioned that in the Design Review Minutes that the committee requested direction from the Planning Commission on Solar Panel guidelines. Staff informed Commissioners that there are state regulations that limit the City's ability to restrict installation of solar panels. The Commission has requested that staff provide an update on any restrictions and guidelines for solar panels in the historical district.

The meeting was adjourned at 8:02pm.

Respectfully submitted,

Kristene Tavares,
Deputy City Clerk

Section 5: PUBLIC COMMENT

Section 6: PUBLIC HEARING

Meeting Date:	September 17, 2014	Agenda Item Number	6.1
Agenda Item Title	Draft Ordinance 2014-06 Amending Off-street Parking Regulations and Non-conforming Uses		
Presented By:	Deputy City Clerk and/or Contract City Planner		
Type of Item:	X	Action	Discussion
Action Required:		No Action	X
			Information
			Roll Call Vote

RECOMMENDATION: Review and discuss Draft Ordinance 2014-06 Amending Zoning Ordinance Off-street Parking Regulations and Non-conforming Uses, consider recommendation to the City Council for Ordinance Amendment.

BACKGROUND: The current off-street parking regulations (Zoning Ordinance §7.16, see Attachment B) do not account for Ferndale's historic downtown area, where buildings were erected without providing off-street parking spaces. There is little space left, especially in the downtown business district, to provide for onsite off-street parking, yet the current regulations require that existing non-conforming uses and structures come into compliance with the on-site parking requirements prior to any change in use of the building. The City has reviewed this issue numerous times in the past. Staff has compiled this information and incorporated it in the current Draft Ordinance (Attachment A).

Amending off-street parking requirements and eliminating nonconforming structures in the downtown area (see Attachment C) will better enable the City to address parking issues while reducing the burden and uncertainty on business owners. On April 3, 2014 the City Council adopted Resolution 2014-06 Authorization of staff time and materials to amend Zoning Ordinance parking regulations and eliminate nonconforming structures requirements in the downtown area. On June 5, 2014 and August 7, 2014 the Council held a Study Session, with Planning Commission members, to review draft amendments. The attached draft has been revised to incorporate input provided at those Study Sessions.

In conjunction with the off-street parking regulation amendments, the city would like to consider amending the Zoning Ordinance §12.01 Non-conforming Uses, pertaining to multi-family use and buildings within the historic district (see Attachment A). The historic district area referenced in Zoning Ordinance §12.01.8 is shown on the Historic District Area Map (see Attachment D).

ENVIRONMENTAL REVIEW: At this time, based on a review of the proposed draft amendments, staff expects that adoption of the proposed ordinance would not constitute a project subject to CEQA pursuant to Title 14, California Code of Regulations, Sections 15060(c)(2), as the activity will not result in a direct or reasonably foreseeable indirect physical change in the environment.

Attachments:

- A. Draft Ordinance 2014-06 Amending Zoning Ordinance Off-street Parking Regulations and Non-conforming Uses
- B. Current Parking Regulations (Excerpt from Zoning Ordinance 02-02)
- C. Draft Exempted Parking Area Map
- D. Historic District Area Map

ORDINANCE NO 2014-06

AN ORDINANCE OF THE CITY OF FERNDALE, STATE OF CALIFORNIA, AMENDING ZONING ORDINANCE 02-02 SECTIONS PERTAINING TO OFF-STREET PARKING REGULATIONS & NON-CONFORMING USES

Table of Contents

Article 1 Short Title and Purpose..... 1
 Article 2 Statutory Authority 1
 Article 3 General Provisions 1
 Article 4 Enactment..... 4

THE CITY COUNCIL OF THE CITY OF FERNDALE DOES ORDAIN AS FOLLOWS: _____

Article 1 SHORT TITLE AND PURPOSE

- §1.1 **Short Title:** This Ordinance shall be known and cited as “Amending Zoning Ordinance 02-02 Off-street Parking Regulations & Non-conforming Uses.”
- §1.2 **Purpose:** The purpose of this Ordinance is to amend Zoning Ordinance 02-02 to update off-street parking requirements and non-conforming uses.

Article 2 STATUTORY AUTHORITY

- §2.1 The statutory authority for this Ordinance is California Government Code §65000 et seq., §65850(d), §65852.25 et seq., and other applicable State laws.

Article 3 GENERAL PROVISIONS

- §3.1 The following changes shall be made to Section 7.16 of Zoning Ordinance 02-02. The section noted shall read as follows:
 - §7.16 Parking and Loading Facilities: Except as provided for in §7.16.6 and §7.16.7 of this Ordinance, off-street parking and loading spaces shall be provided in all zones in conformity with the following: except as provided for in §7.16.6 and §7.16.7 of this Ordinance:
 - 7.16.1 Each parking space shall ~~not be~~ not less than eight (8) feet wide, ~~and sixteen (16) eighteen (18)~~ feet long ~~with~~ and seven (7) feet ~~of vertical clearance~~ high, and each loading space shall ~~not be~~ not less than ten (10) feet wide, twenty ~~(20) five (25)~~ feet long ~~with~~ and fourteen (14) feet ~~high of vertical clearance.~~
 - 7.16.2 Each parking space shall be located on the same parcel, or a contiguous parcel under the same ownership, as the use it serves. except as provided for in §7.16.7 of this Ordinance. [RG1]
 - 7.16.3 When the number of off-street parking spaces required for a structure or use is based on the number of employees, it shall be based upon the shift or employment period during which the greatest number of employees are present.
 - 7.16.4 When a building contains two or more uses, the total required number of

off-street parking spaces shall be the sum of the requirements for all uses. Off-street parking spaces for one use may not be considered as providing required off-street parking spaces for other uses unless a shared parking plan is submitted and approved in accordance with §7.16.7 of this Ordinance.

- 7.16.5 Parking ~~[RG2]~~spaces shall be provided per subsections a-h and j. Loading spaces shall be provided per subsections i and j: as follows:
- a. Dwellings: one (1) for each dwelling unit.
 - b. Hotels, motels, inns, bed and breakfast inns, boarding houses: one (1) for each individual living quarter or dwelling unit.
 - c. Hospitals: one (1) for each bed and one (1) additional for each three (3) staff members.
 - d. Emergency Shelters: one (1) space for every 5 beds and one (1) additional for each three (3) staff members.
 - e. Offices and retail establishments: one (1) for each ~~3~~500 square feet of floor area, with a minimum of four (4) for each office building-. In addition to providing one parking space for each 500 square feet of floor area, Medical and dental offices shall provide one (1) additional parking space for each staff member.
 - f. Restaurants and Department of Alcoholic Beverage Control licensed premises: ~~one (1) for each four (4) seats [RG3]~~ or one (1) for each 200-300 square feet of floor space or maximum capacity as determined by the fire marshal, whichever yields the greatest number of spaces required is greater.
 - g. Wholesale, industrial and public utility buildings: one (1) for each three (3) employees on duty at any one time [RG4]-
 - h. Recreation, education, and public assembly uses, including churches and theaters: one (1) for each 500 square feet of floor area ~~six (6) seats.~~
 - i. Every commercial use occupying more than 5,000 square feet of floor area in any building shall provide one (1) loading space. One additional ~~one (1) additional~~ loading space shall be provided for every 20,000 square feet of floor area in excess of 5,000 square feet.
 - j. All off-street parking areas shall be accessible from a public street, alley, or driveway. A ten (10) foot wide unobstructed vehicular access lane shall be maintained.

- 7.16.6 Any reconstruction or change in use of any structure after the effective date of these amendments ~~and~~ that is located in the commercial zone on Main Street from Eugene Street to Lewis Court and which structure extended one (1) lot deep shall be exempt from off-street parking requirements, provided that said reconstruction or change: [RG5]
- a. Occurs within the building envelope as existing on the effective date of these amendments and,
 - b. Does not result in an increase in lodging or residential units. The re-establishment of residential or lodging units which were in place at

the effective date of these amendments shall be exempt from these requirements if the same or fewer number of units are re-established.

7.16.67.16.7 Alternative parking arrangements.

- a. Alternatives to the parking requirements of this Ordinance may be approved by City staff in compliance with if an applicant provides the following:
 - i. Provide theThe required amount of parking facilitiespaces onare provided in an approved off-site locationanother approved site in compliance with Subsection eb, below; or
 - ii. Submit aA shared parking plan is submitted and approved in compliance with Subsection ec, below; or
 - iii. Provide sSome other parking arrangement [RG6] is provided whereand authorized by the Planning Commission vias a Use Permit approval.
- b. Parking may be located offsite in compliance with the following:
 - i. Offsite parking must be located within 300 feet of the structure in which the proposed use is located.
 - ii. Required parking spaces that are approved offsite shall be committed by a lease or other agreement and filed at City Hall.
 - iii. The owner/operator of a business that uses approved offsite spaces to satisfy parking requirements shall immediately notify City staff of a change of ownership or use of the property for which the spaces are required, and of termination or default of the agreement between the parties.
 - iv. Upon notification that a lease for required offsite parking has terminated, one of the following shall occur:
 - (a). Substitute parking shall be provided; or
 - (b). The size or capacity of the use shall be reduced so that the number of spaces provided comply with this Ordinance.
- c. Parking spaces may be shared by two or more adjacent uses in compliance with the following:
 - i. Up to one hundred percent (100%) of the parking spaces serving a use may be shared by other uses not normally open or operated during similar hours. The applicant must show that the peak parking demand and principal operating hours for each use are suitable for a common parking facility.
 - ii. A written agreement defining the shared parking shall be executed by all parties concerned and filed at City Hall.
 - iii. Any subsequent change in land uses for which the shared parking proposal was approved, and which results in the need for additional parking spaces, shall require a new application under this subsection.

§3.2 The following changes shall be made to Section 12.01 of Zoning Ordinance 02-02. The section noted shall read as follows:

- §12.01 Non-Conforming Uses: ~~The lawful use of lands or buildings existing on the effective date of the application of these regulations to the subject property, although such use does not conform to the regulation applied to such subject property,~~ Any use, building or structure, existing on the date a zoning ordinance amendment rendered the use or structure nonconforming, may be continued, even though such use, building or structure may not conform with the provisions of this chapter, may be continued, except as provided herein:
- 12.01.1 No such use or building shall be enlarged, increased or structurally altered, nor be extended to occupy a greater area than that existing on the effective date of the application of these regulations to the subject property.
 - 12.01.2 Any use for which a use permit is required by these regulations shall be considered a non-conforming use until a use permit is obtained.
 - 12.01.3 If any such use or building after the effective date of the application of these regulations to the subject property is destroyed to the extent of 60% or more, then the subject property shall become subject to the regulations applicable to the subject property, and any subsequent use or buildings shall be in accordance with such regulations.
 - 12.01.4 Any interruption of a non-conforming use, or the use of a non-conforming building which continues for 12 months or more, shall be deemed to be an abandonment of such use, and subsequent use of buildings shall be in accordance with the regulations applicable to the subject property.
 - 12.01.5 Ordinary maintenance and repair may be made to any non-conforming use or building, provided that such maintenance and repair does not exceed 25% of the actual value in any one year.
 - 12.01.6 Any use coming within the provisions of Section 7.04, concerning domestic animals appurtenant to residential uses shall, after the expiration of 6 months from the effective date of these regulations, conform to the provisions of Section 7.04.
 - 12.01.7 ~~Multi-family dwellings may be exempt from Sections 12.01.3 through 12.01.5 of this Ordinance pursuant to California Government Code §65852.25.~~ Sections 12.01.3 through 12.01.5 are subject to Government Code § 65852.25 when applicable to Multifamily Dwellings that are involuntarily damaged or destroyed by fire, other catastrophic event, or the public enemy.
 - 12.01.8 Buildings within the Historic District shall be exempt from sections 12.01.3 and 12.01.5, provided any reconstruction, repair or restoration occurs within the building envelope as existing on the effective date of these amendments.

Article 4 ENACTMENT

§4.1 **Severability.** If any section, sub-section, paragraph, sentence, or word of this ordinance shall be held to be invalid, either on its face or as applied, the invalidity of such provision shall not affect the other sections, sub-sections, paragraphs, sentences and words of this Ordinance, and the applications thereof; and to that end the sections, sub-sections, paragraphs, sentences and words of this Ordinance shall be deemed to be severable.

§4.2 **Effective Date.** This Ordinance shall become effective 30 days after the date of its enactment.

PASSED AND ADOPTED on this 2nd day of October 2014 by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

Attest:

[M11]

Jennifer Church, City Clerk

Stuart Titus, Mayor

First Reading:	Amended:	
Second Reading:		
Enacted:		
Amended:		

DRAFT

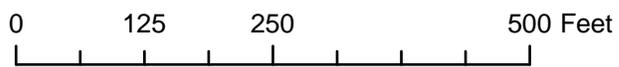
ATTACHMENT B – CURRENT PARKING REGULATIONS**(Excerpt From City Of Ferndale Zoning Ordinance 02-02)**

- §7.16 Parking and Loading Facilities: Off street parking and loading spaces shall be provided in all zones in conformity with the following:
- 7.16.1 Each parking space shall not be less than eight (8) feet wide, eighteen (18) feet long and seven (7) feet high, and each loading space shall not be less than ten (10) feet wide, twenty-five (25) feet long and fourteen (14) feet high.
 - 7.16.2 Parking spaces shall be provided as follows:
 - a. Dwellings: one (1) for each dwelling unit.
 - b. Hotels, motels, inns, bed and breakfast inns, boarding houses: one (1) for each individual living quarter or dwelling unit.
 - c. Hospitals: one (1) for each bed and one (1) additional for each three (3) staff members.
 - d. Offices and retail establishments: one (1) for each 300 square feet of floor area, with a minimum of four (4) for each office building. Medical and dental offices shall provide one (1) additional for each staff member.
 - e. Restaurants and licensed premises: one (1) for each four (4) seats or one (1) for each 200 square feet of floor space, whichever yields the greatest number of spaces required.
 - f. Wholesale, industrial and public utility buildings: one (1) for each three (3) employees on duty at any one time.
 - g. Public assembly, including churches and theaters: one (1) for each six (6) seats.
 - 7.16.3 Every commercial use occupying more than 5,000 square feet of floor area in any building shall provide one (1) loading space and one (1) additional loading space for every 20,000 square feet of floor area in excess of 5,000 square feet.
 - 7.16.4 No building shall be constructed closer to any traveled way than will provide adequate space for the traffic movement and the standing of vehicles which may be incidental to the use of the building.

DRAFT Area Exempt from Parking Requirements

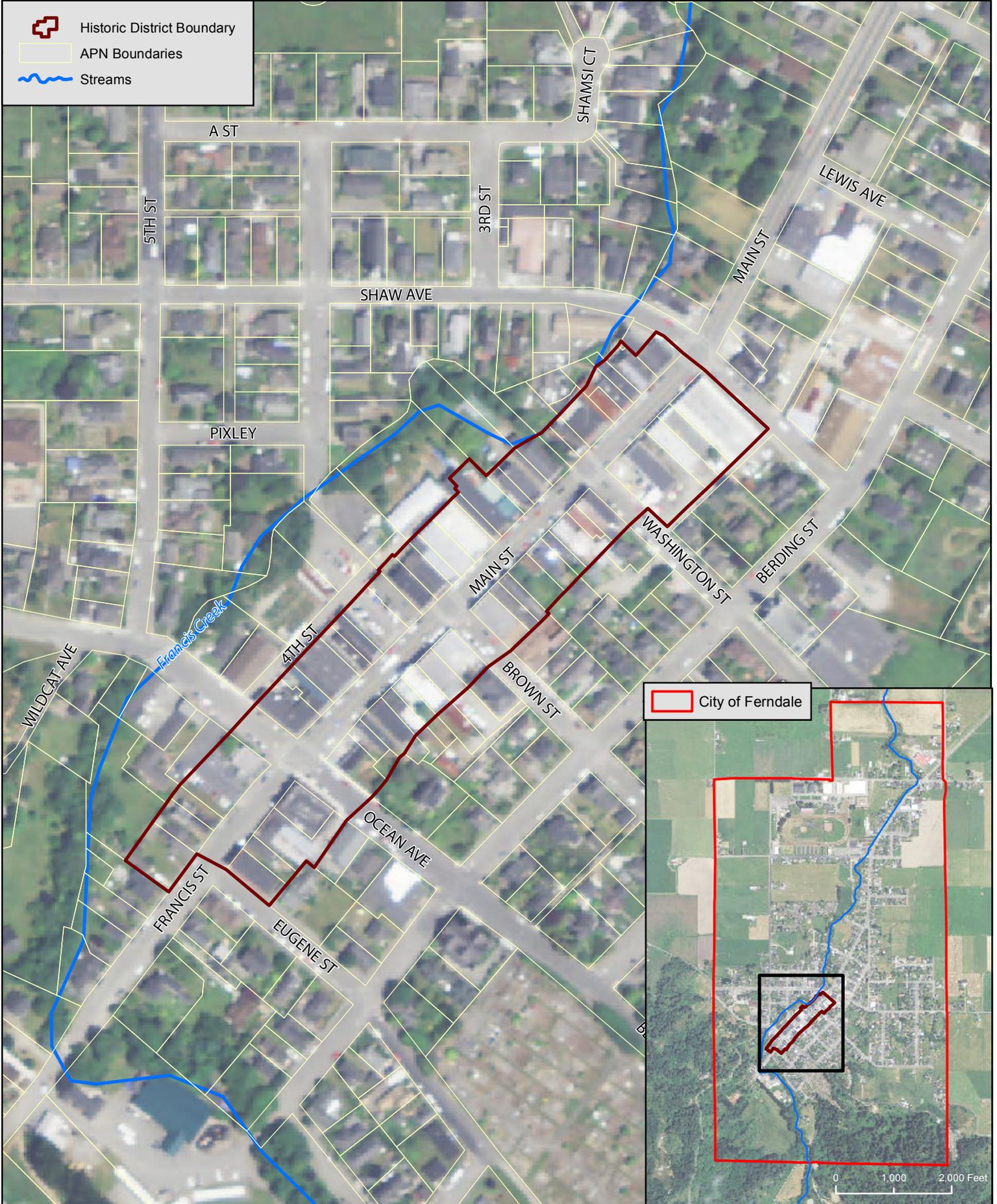


Map compiled July 2014 by GIS Tech C. Wile
Imagery: esri 2014, Parcels: Humboldt Co. GIS
Parking Exempt Area: Planwest Partners



Ferndale Main Street Historic District

-  Historic District Boundary
-  APN Boundaries
-  Streams



Map Compiled 30 August 2010
 Source: Imagery - 2009 USDA NAIP Imagery
 City Limits - Planwest Partners Inc.
 Historic District - Planwest Partners Inc.
 Streams - CA FRAP (frap.cdf.ca.gov)

0 200 400 Feet



PLANWEST
 PARTNERS, INC. 

Section 7: BUSINESS

Meeting Date:	September 17, 2014	Agenda Item Number	7.1
Agenda Item Title	Solar Panel Information and Discussion		
Presented By:	Chair Jorgen Von Frausing-Borch		
Type of Item:	<input type="checkbox"/> Action	<input checked="" type="checkbox"/> Discussion	<input type="checkbox"/> Information
Action Required:	<input checked="" type="checkbox"/> No Action	<input type="checkbox"/> Voice Vote	<input type="checkbox"/> Roll Call Vote

RECOMMENDATION:

Review and file information provided on Solar Panels.

BACKGROUND:

In this past year, the Design Review Committee has had applications for the installation of Solar Panels. Under California Government Code Section 65850.5 local agencies may not create unreasonable barriers to the installation of solar energy systems including design review for aesthetic purposes. The Design Review Committee has approved these applications but has voiced concerns regarding what aesthetic guidelines should be followed.

DISCUSSION:

Discuss The California Solar Rights Act and determine what aesthetic guidelines the Design Review Committee should follow to issue a Design Review Permit for a solar panel installation.

ATTACHMENTS:

1. Information Articles on Solar Panels
2. The California Solar Rights Act

Planning a Solar-Ready Roof

Start thinking about a solar-ready roof during design

By Harry J. Lubitz, CSI

Beginning this year, the California Energy Commission's new energy-efficient standards require solar-ready roofs for all newly built residential and commercial structures. While home and building owners will not be required to install photovoltaic (PV) panels at the time of construction, buildings will need to be equipped for future PV installation.

The best time to think about a solar roof plan is during the design stage. Pre-planning a solar-ready design is a must for an installation during build or in the future. This entails developing a solar-ready review, which focuses on optimizing the design and power production while minimizing the initial and long-term costs.

Components of a solar-ready review include:

ORIENTATION

To maximize power production of a PV system, building orientation is a very important factor. When steeper slopes are involved, south-facing roof surfaces are best. If a south orientation is not possible, southwest or southeast can also be viable options. Orientation is not as important for low-slope roofs 5 degrees or less.

ROOF PITCH

PV modules are normally installed planar to the roof surface on steep roofs, and planar or very slightly tilted on low-slope applications. Aggressive tilting is seldom done anymore due to economic considerations and adverse wind effects. Tilted systems are still used in very northern geographies or on some roofs not oriented to the south. It is a delicate balance of increased cost versus increased power production.

In theory, the best pitch is the latitude of the job site, but in practice this is seldom done. A lower pitch than optimum is not as critical as orientation; the difference in power production is nominal. The increase in power production is not usually worth the premium cost of unusually steep pitches, unless the steeper slope is also an intentional design element.

SHADING

The best design for a solar system is an unobstructed roof area without shading. Building components such as plumbing stacks, skylights, chimneys and parapets can create shadows on the solar system. Consideration should also be given to any trees or future buildings that could cast a shadow on the system.

Attention to all the details in designing a solar system is crucial to achieve the most power production and to run an accurate return on investment (ROI) for the system.

With a basic ROI, the system designer and owner can accurately evaluate whether PVs make financial sense. (Figure 1)

Example case ROI analysis:

- Net system cost after tax credit: \$236,250
 - What year do you go cash positive? Year six
 - Positive cash flow for balance of service life: ROI
 - At the end of 25 years (warranted period for solar modules) produced a ROI of \$1,230,377
 - If the system goes 35 years (still producing power) produced a ROI of \$1,940,377
- Was this a good ROI? Yes!

ROOFING MATERIAL VS. SERVICE LIFE

Generally, the warranted life of solar modules is 25 years, but actual service life may reach 35-plus years. The roof's service life should exceed the service life of the solar system. Otherwise the roof must be replaced, necessitating the de-commission, removal and re-assembly of the solar system.

It is vital to understand the relative costs of the roof asset (the mounting platform) and the solar asset (the revenue generator). Let's consider an example of a new TPO roof of significant size that is covered with PV. The initial cost of the roof is approximately \$3/sq. ft. Calculating the value of the solar array at about 12 watts per square foot and a typical cost of \$2.50/watt, the cost of the array is \$30/sq. ft. The aggregated cost is \$33/sq. ft. But the TPO roof is a 15-year roof and will have to be replaced during the life of the solar system.

When re-roofing is required after 15 years, the cost of reroofing is not only the cost of the new roof, but also the cost of dismantling and reassembling the solar array, in addition to the loss of power production during the process. Estimating the re-roof cost at \$2/sq. ft. and the cost of removing and reinstalling the solar array at \$13/sq. ft., the total is

Annual Energy & Cash Flow Model Figure 1

System Cost \$317,500
 Fed. Tax Incentives 50% (158,750)
 State Tax Incentives 50% (79,375)
 Additional Rebates \$0
 System Starting Balance \$79,375
 PPH \$0.09 per kWh for 13 years
 SREC \$43 for 13 years

Year	% of Full Power	Annual Power (kWh)	Annual Energy Production (kWh)	PPH per kWh Value	Net Energy Value	Price per REC	REC Value	System Balance
2013	200%	174.00	108,442		\$27,141.23	\$43.00	\$6,659.86	\$72,721.14
2014	99.0%	149.49	107,269		\$35,063.86	\$43.00	\$6,413.00	\$16,304.14
2015	98.2%	148.00	106,955		\$27,818.90	\$43.00	\$6,376.80	\$1,927.30
2016	98.0%	147.78	106,841		\$28,097.92	\$43.00	\$6,376.80	\$34,304.10
2017	98.0%	147.69	106,827		\$28,081.29	\$43.00	\$6,376.80	\$38,680.90
2018	98%	147.00	106,614		\$30,091.70	\$43.00	\$6,280.86	\$1,074.04
2019	97.0%	146.00	105,929		\$31,109.17	\$43.00	\$6,218.89	\$12,292.93
2020	97.2%	146.00	105,896		\$31,094.66	\$43.00	\$6,218.89	\$64,511.82
2021	96.0%	145.28	105,442		\$31,223.20	\$43.00	\$6,218.89	\$64,511.82
2022	96.0%	144.60	105,058		\$31,316.84	\$43.00	\$6,218.89	\$109,730.71
2023	96.0%	144.00	104,965		\$36,279.16	\$43.00	\$6,160.00	\$104,570.71
2024	95.0%	143.00	104,511		\$37,083.85	\$43.00	\$6,160.00	\$26,138.89
2025	95.2%	143.00	104,505		\$36,214.62	\$43.00	\$6,051.89	\$26,217.44
2026	94.0%	142.28	103,945		\$40,632.27	\$43.00	\$6,051.89	\$33,269.33
2027	94.0%	141.60	103,850		\$42,026.26	\$43.00	\$7,567.00	\$39,836.33
2028	94%	141.00	103,756		\$43,276.90			\$49,113.23
2029	93.0%	140.00	103,067		\$45,227.22			\$47,206.19
2030	93.2%	139.80	103,028		\$46,711.29			\$12,199.82
2031	92.0%	138.20	102,475		\$46,292.45			\$79,152.27
2032	92.0%	138.00	102,422		\$46,113.19			\$62,445.08
2033	92%	138.00	102,367		\$31,099.93			\$62,133.17
2034	92.0%	137.40	102,043		\$32,719.86			\$29,414.31
2035	92%	136.80	101,839		\$35,576.22			\$74,990.53
2036	90.0%	136.20	101,506		\$37,607.00			\$69,388.53
2037	90.0%	135.60	101,302		\$39,046.29			\$48,336.26
2038	90%	135.00	101,500		\$46,739.22			\$99,074.48
2039	89.0%	134.00	101,044		\$46,104.64			\$1,024,000.32
2040	89.2%	134.00	101,091		\$66,205.34			\$1,090,066.26
2041	88.0%	133.20	101,237		\$68,343.00			\$1,139,411.26
2042	88.0%	132.60	101,083		\$70,900.89			\$1,200,312.15

\$15/sq. ft. for the complete re-roof.

The aggregated cost of this total system over time is now \$48/sq. ft. for a total 30-year system.

Compare this to the cost of using standing seam metal roofing. Instead of expensive ballasted or penetrating racking systems required for the TPO roof, standing seam roof clamps can be used to mount the system without penetration. This provides as much as 15 percent lower costs than mounting costs on membrane roofs.

The cost of a mid-sized, low-slope commercial standing seam roof is about \$4/sq. ft. But the metal standing seam roof outlives the solar, avoiding all costs of roof replacement. And the savings in mounting costs more than offsets the premium cost of the roof.

Consequently the aggregated initial cost with the standing seam metal roof is approximately \$31/sq. ft., making the aggregated cost of ownership over the life of the solar system \$31/sq. ft. for the metal roof vs. \$48/sq. ft. for the TPO.

So when you look at the roof (the mounting platform) and the solar system (the revenue generator) as a single asset, the initial costs are lower when using a standing seam metal roof versus any other roof type. And the long-term costs are much, much lower. **MA**

Harry J. Lubitz, CSI, is the architectural and national accounts manager for S-5! Metal Roof Innovations Ltd. of Colorado Springs, Colo. For more information, visit www.s-5.com.

Building-integrated photovoltaics are redefining the way we build

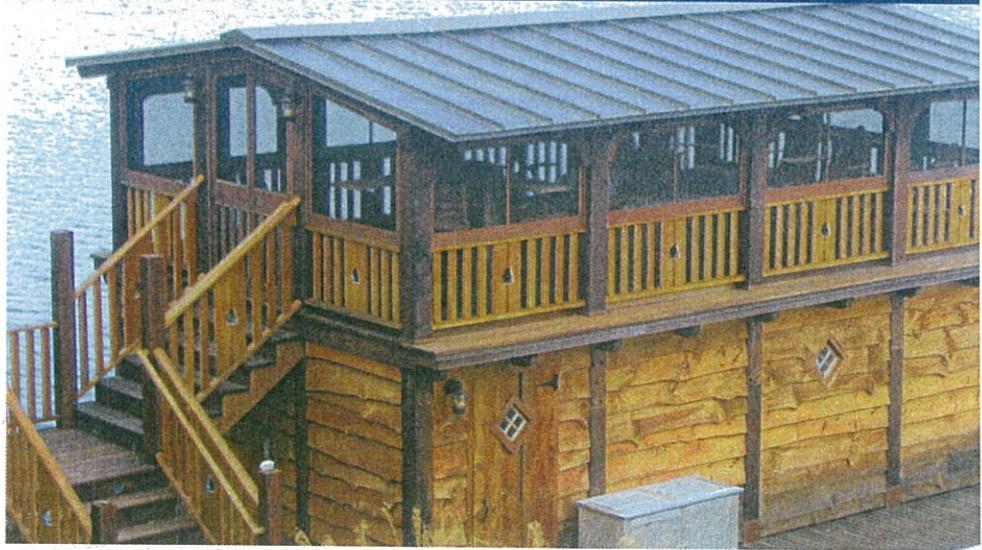
By Liz Valori

Solar energy is enhancing the world we live in and let's not forget to mention that it's free. You heard that right: free. With solar photovoltaic technology, you can save energy costs all while living in a sustainable environment.

Our consciousness of the environment continues to grow, which means the integration of sustainable building products is becoming more prominent in the design and development of office spaces, homes, universities and colleges, and much more. Architects, homeowners, and building owners are choosing materials that regard their natural surroundings to support a thriving and vibrant planet. Building-integrated photovoltaics have been shedding light (pun intended) on the importance and effectiveness of utilizing natural sources of energy.

Next to wind and hydro power, solar photovoltaics is the third most prevalent renewable energy source and it's sweeping the globe. Two types of photovoltaic technology include crystalline solar panels and thin-film laminates. Each transforms the sun's energy into electric power when solar cells on the panel or laminate are hit by light.

Crystalline panels are composed of crystalline silicon solar cells that are protected with a glass cover. Thin-film laminates are also effective in collecting the sun's energy. This type of photovoltaic technology is composed of solar cells with a transparent conducting coat on a flexible substrate that can be attached via its adhesive backing to a metal roof.



Photovoltaics are changing the way we live and build, and with metal roofing profiles by Allentown, Pa.-based ATAS International Inc., the solar capabilities are endless. Many ATAS metal roofing products are solar ready, giving homeowners and building owners the ability to make greener choices. Metal is the best selection for both crystalline and BIPV solar systems because, unlike other materials, metal offers the longest service life.

When installing a crystalline system that typically is warranted for 25 years of power generation, a building owner is going to want a roofing substrate that has a greater life expectancy than that of the solar panels. Standing-seam panels also provide a natural platform for thin-film laminates and crystalline systems, eliminating the need for installation requiring roof penetration.

ATAS is helping the sun do what it does best—light and heat our indoor world. InSpire, a solar air heating and drying system offered by ATAS, uses the sun's energy to heat industrial, commercial and residential buildings. The transpired solar collector wall panel is mounted a few inches from the building's outer wall. The precision perforations in the wall panels allow outside air to travel through the face of the panel.

Solar heated air at the surface of the panel is drawn through the perforations where it rises between the two walls and enters the building's central ventilation system or supply fan. In the summer, by-pass louvers allow cool fresh air to be drawn into the building at night, creating a comfortable environment to start the workday.

InSpire is also valuable during summer months.

When solar air heating is not needed, the hot air enters the space behind the panel and is vented at the top by natural convection. The panels act as a sunscreen preventing the sunshine from hitting the building wall, keeping the wall cooler. During cool summer nights, cool outside air enters the bypass damper to bring the cool outdoor air inside.

Benefits of InSpire solar air heating and drying are clear. First and foremost, this system utilizes free solar energy, which means reduced heating costs. The system also improves indoor air quality by cycling fresh outside air through a building's central HVAC system. This can help in reducing sick building syndrome. InSpire also contributes toward LEED certification credits, qualifies for tax incentives, and provides a strong return on investment.

Applications for InSpire include Industrial/Commercial, Residential/Light Commercial, and modular units. The modular unit can be mounted on a roof, wall, or on the ground, reaching 500 CFM (7-foot by 9-foot configuration). Using InSpire as a modular unit is advantageous in that it allows for drying fuel savings, extends the life of drying equipment, and improves control of moisture content reduction.

With solar options flourishing, design capabilities are boundless. Innovations in building-integrated photovoltaics are redefining the way we build, ensuring a healthy and sustainable future. 

Liz Valori is the marketing specialist at ATAS International Inc., Allentown, Pa. For more information, visit www.atas.com or download the ATAS Product Line App. To learn more about InSpire, visit www.inspirewall.com



Even with tighter incentives, rooftop solar technology offers energy saving objectives

By Dave Rowe

Most of the major solar analysts and all of the top solar publications are predicting a growth year for the solar energy industry.

Look closely at the predictions, however, and you'll see that most of that growth is being predicted in Asia, specifically in China and Japan. Worldwide, the U.S. will rank a distant third in growth.

METAL ROOFS ARE THE BEST PLATFORMS

Solar roof technology for the most part has always been seen as an expensive initial investment with a long-term payback that might or might not be attractive to its residential or commercial investor. The technology has been perceived to be sound—and metal roofs are cited more often than most as the best platform for solar technologies that generate either electricity or heat or both.

It's interesting that the senior executive of a roofing materials manufacturer that makes cement shingles and membranes recently noted publicly that a major problem is not matching the roof life to the solar installation's life. He noted that putting a solar installation that may last 20 years on a roof that, like many new construction roofs, is only designed to last 10 years is "asking for problems."

That may be true for some roofing materials, but not if you're specifying standing seam metal roofs, which routinely carry warranties good for 20 to 35 years and can be attached to photovoltaic panels with state-of-the-art clamps that eliminate the need for roof penetration.

FINANCING OPTIONS MAY BE CHANGING

We hear a lot of different messages about the payback from a roof with solar photovoltaics. Those numbers are generally tied to the number of incentives and types of financing available in the marketplace at any given time. Right now those incentives and financing options are lean indeed. Incentives from states that entered the solar arena with a bang several years ago have now dwindled to a trickle. On the up side, the Federal Solar Investment Tax Credit (ITC) remains in effect and is a 30 percent tax credit for solar systems on residential (under Section 25D) and commercial (under Section 48) properties.

The ITC has helped annual solar installation grow by more than 1,600 percent since it was imple-

mented in 2006—a compound annual growth rate of 76 percent. But to make rooftop solar energy an economically worthy consideration, ITC was often bonded with other forms of state, public utility and private incentives and funding methods that made the implementation of rooftop solar energy financially plausible. However, much of those incentives are currently on ice.

On the other hand, new financing options, including locally generated bank loans and credit unions, are expected to make it easier for homeowners and commercial entities to use solar technology. There are even some optimists who foresee extraordinary growth in the U.S. through 2016—aided, not hindered, by the potential reduction of the ITC from 30 to 10 percent federal tax credit in 2016. They believe that support will be replaced by debt or sponsor equity, money they claim is much easier to raise than tax equity. A form of investment known as crowdfunding may supply rooftop solar projects of the future. A growing number of rooftop solar developers are soliciting funds directly from retail investors, often through websites that tap a large number of small contributions.

PRODUCING SOLUTION

Net metering, which has provided solar installations with a payback for every watt of electricity sold back to the local utility, has been successful in big states where the squeaky wheels that have supported solar have gotten some attention. Not so in smaller states in the U.S., where grassroots support has been light.

THE GOOD NEWS

On a positive note, prices for solar equipment will continue its gradual decline. And now, more focus is on reducing the components and associated costs used in grounding, racking and site preparation for solar panels that are costly and add more work, yet don't add any significant functional value. Solar panels take more time and cost more than adhesive-backed photovoltaic laminate technology, which can be applied directly to the standing seam panel. However, it takes more laminate material to produce amounts of energy comparable to a crystalline configuration. Consequently more connections must be installed with the laminate system, adding more cost.

CRYSTALLINE VS. LAMINATE PV

In sunny, warm weather conditions, crystalline PV-



mounted on the standing seam has been shown to reduce the heat factor by shading the roof with its panels. Dark blue PV laminate applied directly to the panels may actually increase heat.

Other differences not related to price and output?

Thin-film photovoltaics can be applied to curved metal roof surfaces. However, they cannot be applied to standing seam with striations or embossing.

If you are concerned about aesthetics and maintaining the appearance of a traditional roofing surface, then you may be willing to sacrifice crystalline panels for laminates. Crystalline panels mounted on a sloped roof are very obvious. PV laminates applied directly to standing seam panel with dark colors are hardly discernable from ground level. Laminate PV is less noticeable and more aesthetic with dark colored roofs like dark blues and greens, black, dark bronze and charcoal gray, but will be obvious from ground level with roof coatings like reds, whites and tans.

DON'T FORGET SOLAR THERMAL

There's one other very important aspect of rooftop solar energy sometimes overlooked. Perhaps the most widely employed rooftop solar technology isn't electric, it's solar thermal for heating air and hot water. First, because it's a lot less expensive to install, and second, the payback for homeowners and commercial users is good.

Solar thermal water heating technologies rank among the simplest and oldest solar energy applications—hence they are the most cost-efficient means of saving energy costs. And they work extremely well with standing seam metal to serve as a cost-efficient, effective conductor for heat used to create the hot water.

We know from the American experience with solar energy that there will always be homeowners and businesses passionate about solar technology as a solution toward reducing the carbon footprint—even when incentives are slim. **MA**

Dave Rowe, product development director at Englert Inc., Perth Amboy, N.J. For more information, visit www.englertinc.com.

Solar on metal create long-lasting benefits

By Gary Manlove

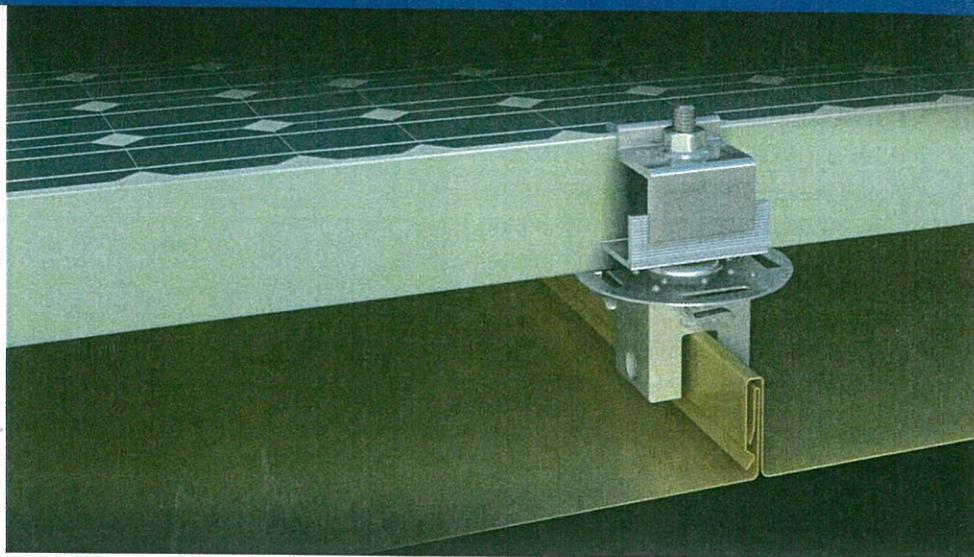
Compatible sustainability, durability, life span and long-term cost savings are a few of the reasons metal makes the perfect platform for photovoltaic arrays. Metal roofers and architects are increasingly recognizing the structural and economic benefits of this marriage ... and the environmental and tax perks have proven to be powerful selling points.

Sustainability is the balance of trade between the built and natural environments and a solar metal roof is the most sustainable roof system. Metal roofs are 100 percent recyclable and the most recycled construction material is steel at 93.3 percent. Metal roofs are energy-efficient, meeting Energy Star requirements with high reflectance, and easily meet the recycle content for LEED credits. Unlike other roofing material, metal is impervious to UV degradation.

Likewise, at the end of their service life, crystalline silicon PV modules can be broken down and recycled. While solar panel manufacturers often provide a 25-year performance warranty, crystalline silicon systems have proven over time to offer a service life in excess of 30 years.

Because the expected service life of a new solar power system is 30-plus years, which is well beyond most conventional roofs that have a service life of only around 15 years, the roof will require replacement long before the solar system. That means incurring the high cost of teardown and disassembly of the solar system, tear-off and removal of the old roofing material (which will be dumped in a landfill), new roof replacement, and reinstallation of the solar system. Furthermore, by having to decommission the solar system while the conventional roof is replaced, out-of-pocket expenses are additionally increased by the loss of energy production during downtime.

Conversely, with the 40- to 60-year service life of a standing seam metal roof, your roof will long outlive your solar system, dramatically reducing the total life cycle cost of your solar roof. Actually, the total life cycle cost associated with putting solar on a metal roof is so much lower than on a conventional roof, the metal roof is essentially paid for through



the realized savings.

Another important benefit of solar on metal is rooftop temperature stability. Because the raised solar panels cast shade on the metal roof, the rooftop temperature is reduced, thus substantially reducing cooling costs. In Florida, where air conditioning costs represent 33 percent of the electrical consumption of the average home, reducing the temperature of the roof by 30 percent or more presents great savings for cooling the inside of the building.

When attached to a typical standing seam metal roof, the crystalline panels also create an air plenum, drawing air up under and back out through the array, keeping the modules cooler so that they are more efficient. While a conventional roof also has the air space and shading, the addition of photovoltaic panels can promote fungal growth on these roof materials.

Research has shown that in humid climates, the shade provided by solar panels can stimulate rapid growth of fungus on membrane roofs. The zinc component in metal roofing material actually kills fungus, so fungus can't grow on the metal roof.

Lastly, to support a solar system, a conventional roof may require a number of structural improvements. Even if the roof can support the weight of the crystalline system, there are still costly anchorage, racking and mounting systems that must be purchased and installed. Most of these racking and mounting systems (as well as associated conduit for wiring and various other electrical hardware) neces-

sitate putting hundreds, if not thousands, of holes in the roof; and the roof manufacturer will understandably consider those penetrations to be a violation of its warranty agreement. The labor cost alone for installation of the racking and mounting system can also be substantial.

With a standing seam metal roof, however, you can install the entire crystalline system without penetration, and at a huge savings in installation hardware and labor costs. A metal solar roof can have over 10,000 points of attachment and never void the roof warranty by penetrating the metal roof.

Colorado Springs, Colo.-based S-51 manufactures several non-penetrating solar attachment options for standing seam metal roofs. By far the most popular and innovative solution is the UL/ETL-listed S-5-PV Kit that allows solar modules to be attached directly to standing seam metal roofs, foregoing the traditional rack and rail methods.

Indeed, a standing seam metal roof is the perfect platform for harvesting solar energy, offering: freedom from roof penetrations to preserve the roof manufacturer's warranty; easy installation, which translates to great savings; the benefit of a cool roof with no fungal growth; and the strength, durability and longevity of a metal roof that will almost certainly outlive your solar system, providing the lowest possible overall cost. **MAN**

Gary Manlove is the business development manager at Metanna, Monument, Colo. To learn more, visit www.metanna.com

SolarWall air heating and the growth of building-integrated solar

By Victoria Hollick

Mention solar energy, and the first thought that comes to mind are box-like electricity generating panels attached to the roof of a building that assert their existence with their modular nature and distinctive appearance.

But according to new data released by the Solar Energy Industries Association (SEIA), a growing sector of the solar heating industry has reached a major milestone, with 5 million square feet of building-integrated solar air heating collectors now installed in North America. SEIA President and CEO Rhone Resch says these systems represent 250 megawatts (MW) of thermal energy and displace nearly 100,000 tons of CO₂ each year from the atmosphere.

"Building-integrated solar air heating systems are often overlooked in the discussion about renewable energy," Resch says. "We need to change that mindset. These cost-effective, energy-efficient systems can reduce by 20 to 50 percent the amount of conventional energy used for heating buildings—or for agricultural or process drying applications. That can represent a huge savings to companies, business owners and farmers nationwide."

Building-integrated solar air heating systems, such as the SolarWall technology, work by trans-



forming the fabric of a building's southerly elevation into a giant solar collector. The system is used to capture the sun's energy to heat fresh, outside air before it is drawn into the building's heating and ventilation system, considerably reducing its reliance on fossil fuels.

A very unique architectural aspect of solar air heating systems is that they are made of metal, and can therefore be styled, shaped and designed into any different type of building envelope, including pre-engineered metal buildings. SolarWall systems have also been integrated into many architecturally significant buildings, helping achieve a variety of green building awards and LEED points.

The growth of building-integrated solar air heating systems has been driven by many factors including the simplicity of integration and installation, the ability of architects to be creative with the use of this metal solar technology, their ability to displace a large amount of a building's energy load (which is space or process heating), high LEED point generation and the cost-effectiveness of solar air heating systems relative to other solar technologies.

The technology is now poised for significant growth as solar air heating becomes a mainstream solution to reducing greenhouse gas emissions. It is a real game-changer in the fight to reduce energy and carbon emissions. There are new variations of the technology that now allow it to be used for high-temperature heating and for nighttime cooling via roof-mount systems.

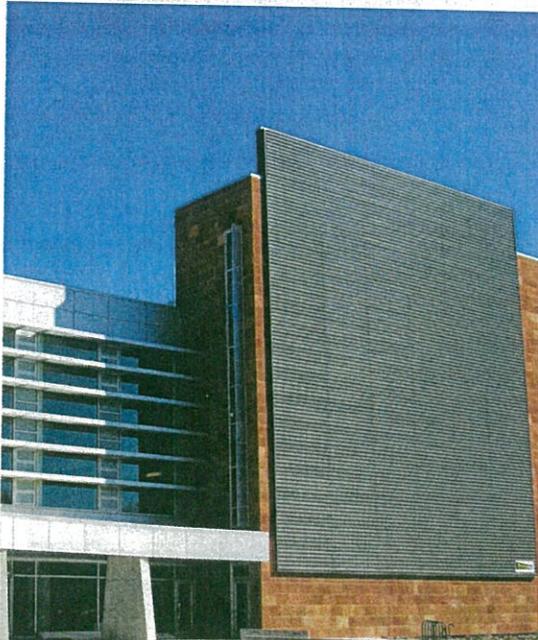
Toronto-based Conservall Engineering Inc. developed the original SolarWall building-integrated solar air heating technology in the 1980s and 1990s for the specific purpose of heating large spaces such as offices, factories and warehouse facilities. It was

the breakthrough invention that created the global solar air heating industry and since its launch, it has been installed across the commercial and industrial spectrum, from large industrial manufacturing plants and warehouses, to hangars and vehicle maintenance garages, to schools and high-rise buildings in more than 35 countries around the world.

Most recently, SolarWall inventor John Hollick has been honored in a new exhibit curated by the American Society of Mechanical Engineers (ASME) in New York City that features the best inventions, inventors and engineering feats of the past two centuries including Thomas Edison, Henry Ford, George Westinghouse, Willis Carrier, the steam engine and the Panama Canal. SolarWall Air Heating was featured in the Energy and Power Category, along with the steam engine, the jet engine, the transformer, incandescent light bulbs, the internal combustion engine, Alta Wind Energy Center, the electric generator and the Itaipu Dam.

Entitled "Engineering the Everyday and the Extraordinary," the goal of the exhibit is to "invite people to rediscover the remarkable; the engineers and inventions that have shaped our world as well as the extraordinary breakthroughs that are already setting the stage for the future." The exhibit will remain in the lobby of the ASME building for the next 15 years. [MA](#)

Victoria Hollick is the president of Buffalo, N.Y.-based Conservall Systems Inc., maker of SolarWall. Hollick currently serves on the board of directors of the Solar Air Heating World Industries Association (SAHWIA) and on the Solar Heating & Cooling Council for the Solar Energy Industry Association (SEIA). To learn more, visit www.solarwall.com



THE CALIFORNIA SOLAR RIGHTS ACT

The Solar Rights Act comprises the following California sections of law: California Civil Code Sections 714 and 714.1, California Civil Code Section 801, California Civil Code Section 801.5, California Government Code Section 65850.5, California Health and Safety Code Section 17959.1, California Government Code Section 66475.3 and California Government Code Section 66473.1.

These sections of law are reprinted here in their entirety.

9.1 CALIFORNIA CIVIL CODE SECTION 714

(a) Any covenant, restriction, or condition contained in any deed, contract, security instrument, or other instrument affecting the transfer or sale of, or any interest in, real property that effectively prohibits or restricts the installation or use of a solar energy system is void and unenforceable.

(b) This section does not apply to provisions that impose reasonable restrictions on solar energy systems. However, it is the policy of the state to promote and encourage the use of solar energy systems and to remove obstacles thereto. Accordingly, reasonable restrictions on a solar energy system are those restrictions that do not significantly increase the cost of the system or significantly decrease its efficiency or specified performance, or that allow for an alternative system of comparable cost, efficiency, and energy conservation benefits.

(c) (1) A solar energy system shall meet applicable health and safety standards and requirements imposed by state and local permitting authorities.

(2) A solar energy system for heating water shall be certified by the Solar Rating Certification Corporation (SRCC) or other nationally recognized certification agencies. SRCC is a nonprofit third party supported by the United States Department of Energy. The certification shall be for the entire solar energy system and installation.

(3) A solar energy system for producing electricity shall also meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the Public Utilities Commission regarding safety and reliability.

(d) For the purposes of this section:

(1) (A) For solar domestic water heating systems or solar swimming pool heating systems that comply with state and federal law, "significantly" means an amount exceeding 20 percent of the cost of the system or decreasing the efficiency of the solar energy system by an amount exceeding 20 percent, as originally specified and proposed.

(B) For photovoltaic systems that comply with state and federal law, "significantly" means an amount not to exceed two thousand dollars (\$2,000) over the system cost as originally specified and proposed, or a decrease in system efficiency of an amount exceeding 20 percent as originally specified and proposed.

(2) "Solar energy system" has the same meaning as defined in paragraphs (1) and (2) of subdivision (a) of Section 801.5.

(e) Whenever approval is required for the installation or use of a solar energy system, the application for approval shall be processed and approved by the appropriate approving entity in the same manner as an application for approval of an architectural modification to the property, and shall not be willfully avoided or delayed.

(f) Any entity, other than a public entity, that willfully violates this section shall be liable to the applicant or other party for actual damages occasioned thereby, and shall pay a civil penalty to the applicant or other party in an amount not to exceed one thousand dollars (\$1,000).

(g) In any action to enforce compliance with this section, the prevailing party shall be awarded reasonable attorney's fees.

(h) (1) A public entity that fails to comply with this section may not receive funds from a statesponsored grant or loan program for solar energy. A public entity shall certify its compliance with the requirements of this section when applying for funds from a state-sponsored grant or loan program.

(2) A local public entity may not exempt residents in its jurisdiction from the requirements of this section.

9.2 CALIFORNIA CIVIL CODE SECTION 714.1

Notwithstanding Section 714, any association, as defined in Section 1351, may impose reasonable provisions which:

(a) Restrict the installation of solar energy systems installed in common areas, as defined in Section 1351, to those systems approved by the association.

(b) Require the owner of a separate interest, as defined in Section 1351, to obtain the approval of the association for the installation of a solar energy system in a separate interest

owned by another.

(c) Provide for the maintenance, repair, or replacement of roofs or other building components.

(d) Require installers of solar energy systems to indemnify or reimburse the association or its members for loss or damage caused by the installation, maintenance, or use of the solar energy system

9.3 CALIFORNIA CIVIL CODE SECTION 801

The following land burdens, or servitudes upon land, may be attached to other land as incidents or appurtenances, and are then called easements:

1. The right of pasture;
2. The right of fishing;
3. The right of taking game;
4. The right-of-way;
5. The right of taking water, wood, minerals, and other things;

Solar Rights Act

Energy Policy Initiatives Center 25

6. The right of transacting business upon land;
7. The right of conducting lawful sports upon land;
8. The right of receiving air, light, or heat from or over, or discharging the same upon or over land;
9. The right of receiving water from or discharging the same upon land;
10. The right of flooding land;
11. The right of having water flow without diminution or disturbance of any kind;
12. The right of using a wall as a party wall;
13. The right of receiving more than natural support from adjacent land or things affixed thereto;
14. The right of having the whole of a division fence maintained by a coterminous owner;
15. The right of having public conveyances stopped, or of stopping the same on land;
16. The right of a seat in church;
17. The right of burial;
18. The right of receiving sunlight upon or over land as specified in Section 801.5.

9.4 CALIFORNIA CIVIL CODE SECTION 801.5

(a) The right of receiving sunlight as specified in subdivision 18 of Section 801 shall be referred

to as a solar easement. "Solar easement" means the right of receiving sunlight across real property of another for any solar energy system.

As used in this section, "solar energy system" means either of the following:

(1) Any solar collector or other solar energy device whose primary purpose is to provide for the collection, storage, and distribution of solar energy for space heating, space cooling, electric generation, or water heating.

(2) Any structural design feature of a building, whose primary purpose is to provide for the collection, storage, and distribution of solar energy for electricity generation, space heating or cooling, or for water heating.

(b) Any instrument creating a solar easement shall include, at a minimum, all of the following:

(1) A description of the dimensions of the easement expressed in measurable terms, such as vertical or horizontal angles measured in degrees, or the hours of the day on specified dates during which direct sunlight to a specified surface of a solar collector, device, or structural design feature may not be obstructed, or a combination of these descriptions.

(2) The restrictions placed upon vegetation, structures, and other objects that would impair or obstruct the passage of sunlight through the easement.

(3) The terms or conditions, if any, under which the easement may be revised or terminated.

9.5 CALIFORNIA GOVERNMENT CODE SECTION 65850.5

(a) The implementation of consistent statewide standards to achieve the timely and cost effective installation of solar energy systems is not a municipal affair, as that term is used in Section 5 of Article XI of the California Constitution, but is instead a matter of statewide concern. It is the intent of the Legislature that local agencies not adopt ordinances that create unreasonable barriers to the installation of solar energy systems, including, but not limited to, design review for aesthetic purposes, and not unreasonably restrict the ability of homeowners and agricultural and business concerns to install solar energy systems. It is the policy of the state to promote and encourage the use of solar energy systems and to limit obstacles to their use. It is the intent of the Legislature that local agencies comply not only with the language of this section, but also the legislative intent to encourage the installation of solar energy systems by removing obstacles to, and minimizing costs of, permitting for such systems.

(b) A city or county shall administratively approve applications to install solar energy systems through the issuance of a building permit or similar nondiscretionary permit. Review of the application to install a solar energy system shall be limited to the building official's review of whether it meets all health and safety requirements of local, state, and federal law. The

requirements of local law shall be limited to those standards and regulations necessary to ensure that the solar energy system will not have a specific, adverse impact upon the public health or safety. However, if the building official of the city or county has a good faith belief that the solar energy system could have a specific, adverse impact upon the public health and safety, the city or county may require the applicant to apply for a use permit.

(c) A city or county may not deny an application for a use permit to install a solar energy system unless it makes written findings based upon substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The findings shall include the basis for the rejection of potential feasible alternatives of preventing the adverse impact.

(d) The decision of the building official pursuant to subdivisions (b) and (c) may be appealed to the planning commission of the city or county.

(e) Any conditions imposed on an application to install a solar energy system shall be designed to mitigate the specific, adverse impact upon the public health and safety at the lowest cost possible.

(f) (1) A solar energy system shall meet applicable health and safety standards and requirements imposed by state and local permitting authorities.

(2) A solar energy system for heating water shall be certified by the Solar Rating Certification Corporation (SRCC) or other nationally recognized certification agency. SRCC is a nonprofit third party supported by the United States Department of Energy. The certification shall be for the entire solar energy system and installation.

(3) A solar energy system for producing electricity shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the Public Utilities Commission regarding safety and reliability.

(g) The following definitions apply to this section:

(1) "A feasible method to satisfactorily mitigate or avoid the specific, adverse impact" includes, but is not limited to, any cost-effective method, condition, or mitigation imposed by a city or county on another similarly situated application in a prior successful application for a permit. A city or county shall use its best efforts to ensure that the selected method, condition, or mitigation meets the conditions of subparagraphs (A) and (B) of paragraph (1) of subdivision (d) of Section 714 of the Civil Code.

(2) "Solar energy system" has the same meaning set forth in paragraphs (1) and (2) of subdivision (a) of Section 801.5 of the Civil Code.

(3) A "specific, adverse impact" means a significant, quantifiable, direct, and unavoidable impact, based on objective, identified, and written public health or safety standards, policies, or conditions as they existed on the date the application was deemed complete.

9.6 CALIFORNIA HEALTH & SAFETY CODE SECTION 17591

(a) A city or county shall administratively approve applications to install solar energy systems through the issuance of a building permit or similar nondiscretionary permit. However, if the building official of the city or county has a good faith belief that the solar energy system could have a specific, adverse impact upon the public health and safety, the city or county may require the applicant to apply for a use permit.

(b) A city or county may not deny an application for a use permit to install a solar energy system unless it makes written findings based upon substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. This finding shall include the basis for the rejection of potential feasible alternatives of preventing the adverse impact.

(c) Any conditions imposed on an application to install a solar energy system must be designed to mitigate the specific, adverse impact upon the public health and safety at the lowest cost possible.

(d) (1) A solar energy system shall meet applicable health and safety standards and requirements imposed by state and local permitting authorities.

(2) A solar energy system for heating water shall be certified by the Solar Rating Certification Corporation (SRCC) or other nationally recognized certification agency. SRCC is a nonprofit third party supported by the United States Department of Energy. The certification shall be for the entire solar energy system and installation.

(3) A solar energy system for producing electricity shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the Public Utilities Commission regarding safety and reliability.

(e) The following definitions apply to this section:

(1) "A feasible method to satisfactorily mitigate or avoid the specific, adverse impact" includes,

but is not limited to, any cost effective method, condition, or mitigation imposed by a city or county on another similarly situated application in a prior successful application for a permit. A city or county shall use its best efforts to ensure that the selected method, condition, or mitigation meets the conditions of subparagraphs (A) and (B) of paragraph (1) of subdivision (d) of Section 714 of the Civil Code.

(2) "Solar energy system" has the meaning set forth in paragraphs (1) and (2) of subdivision (a) of Section 801.5 of the Civil Code.

(3) A "specific, adverse impact" means a significant, quantifiable, direct, and unavoidable impact, based on objective, identified, and written public health or safety standards, policies, or conditions as they existed on the date the application was deemed complete.

9.7 CALIFORNIA GOVERNMENT CODE SECTION 66475.3

For divisions of land for which a tentative map is required pursuant to Section 66426, the legislative body of a city or county may by ordinance require, as a condition of the approval of a tentative map, the dedication of easements for the purpose of assuring that each parcel or unit in the subdivision for which approval is sought shall have the right to receive sunlight across adjacent parcels or units in the subdivision for which approval is sought for any solar energy system, provided that such ordinance contains all of the following:

(1) Specifies the standards for determining the exact dimensions and locations of such easements.

(2) Specifies any restrictions on vegetation, buildings and other objects which would obstruct the passage of sunlight through the easement.

(3) Specifies the terms or conditions, if any, under which an easement may be revised or terminated.

(4) Specifies that in establishing such easements consideration shall be given to feasibility, contour, configuration of the parcel to be divided, and cost, and that such easements shall not result in reducing allowable densities or the percentage of a lot which may be occupied by a building or a structure under applicable planning and zoning in force at the time such tentative map is filed.

(5) Specifies that the ordinance is not applicable to condominium projects which consist of the subdivision of airspace in an existing building where no new structures are added.

For the purposes of this section, "solar energy systems" shall be defined as set forth in Section 801.5 of the Civil Code.

For purposes of this section, "feasibility" shall have the same meaning as set forth in Section

66473.1 for the term "feasible".

9.8 CALIFORNIA GOVERNMENT CODE SECTION 66473.1

(a) The design of a subdivision for which a tentative map is required pursuant to Section 66426 shall provide, to the extent feasible, for future passive or natural heating or cooling opportunities in the subdivision.

(b) (1) Examples of passive or natural heating opportunities in subdivision design, include design of lot size and configuration to permit orientation of a structure in an east-west alignment for southern exposure.

(2) Examples of passive or natural cooling opportunities in subdivision design include design of lot size and configuration to permit orientation of a structure to take advantage of shade or prevailing breezes.

(c) In providing for future passive or natural heating or cooling opportunities in the design of a subdivision, consideration shall be given to local climate, to contour, to configuration of the parcel to be divided, and to other design and improvement requirements, and that provision shall not result in reducing allowable densities or the percentage of a lot that may be occupied by a building or structure under applicable planning and zoning in effect at the time the tentative map is filed.

(d) The requirements of this section do not apply to condominium projects which consist of the subdivision of airspace in an existing building when no new structures are added.

(e) For the purposes of this section, "feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors.

Business Item 7.2 - Building and Land Use Permits

<i>BUSINESS ITEM</i>		<i>August 10, 2014 – September 9, 2014</i>
<i>Building Permits</i>		
484	Main	Replace Deck/Siding
339	Main	Replace Hood/Install Fire Suppression System
1467	Main	Replace Siding

NOTE: Staff will bring the Building Permit Book to the Planning Commission meetings so that any of the commissioners, or public, can view any permits that have been issued.

Meeting Date:	September 17, 2014	Agenda Item Number	7.3
Agenda Item Title	Design Review Committee Report & Minutes		
Presented By:	Kristene Tavares, Deputy City Clerk		
Type of Item:	<input type="checkbox"/> Action	<input checked="" type="checkbox"/> Discussion	<input type="checkbox"/> Information
Action Required:	<input checked="" type="checkbox"/> No Action	<input type="checkbox"/> Voice Vote	<input type="checkbox"/> Roll Call Vote

RECOMMENDATION:

Receive and file report from Design Review Committee members.

BACKGROUND:

Chairman Von Frausing-Borch and staff have discussed having the two Design Review Committee members report on items of interest. This will be an on-going item on the agenda.

ATTACHMENTS:

1. Minutes of Design Review Committee Meeting on 07/24/2014
2. Minutes of Design Review Committee Meeting on 08/07/2014
3. Minutes of Design Review Committee Meeting on 08/14/2014
4. Minutes of Design Review Committee Meeting on 08/28/2014

City of Ferndale, Humboldt County, California USA
Design Review Minutes for the 07/24/14 - 8:30am meeting

Chairman Mark Giacomini opened the meeting at 8:32 a.m. Committee Members Paul Gregson, Doug Brower, and Lino Mogni were present along with Deputy City Clerk Kristene Tavares.

Approval of Previous Minutes: **MOTION to APPROVE** June 26, 2014 meeting minutes.
(Gregson/Brower) Unanimous.

There were no Modifications to the Agenda.

There were no Public Comments.

1289 Main Street: The Design Review Committee was presented with a picture of the proposed windows as well as photos of proposed placement of the windows. **MOTION** to make the required findings of fact listed in Attachment A to **APPROVE** the amendment of Design Review Use Permit 1338, subject to the conditions of approval listed in Attachment B, to add three (3) 24" X 40" windows to the garage. **(Gregson/Mogni) Unanimous**

Design Review Sign-Off's: The following DR Permits were signed off: DR1416

There was no Correspondence.

There were no Committee Member Comments.

Meeting adjourned at 8:49 a.m.

Respectfully submitted

Kristene Tavares, Deputy City Clerk
City of Ferndale

City of Ferndale, Humboldt County, California USA
Design Review Minutes for the 08/07/14 - 8:30am meeting

Chairman Mark Giacomini and Committee Member Doug Brower were present along with Deputy City Clerk Kristene Tavares. Paul Gregson (excused absence) and Lino Mogni were not present. Quorum was not met. Meeting was cancelled

Respectfully submitted

Kristene Tavares, Deputy City Clerk
City of Ferndale

City of Ferndale, Humboldt County, California USA

Design Review Minutes for the 08/14/14 - 8:30am meeting

Chairman Mark Giacomini opened the meeting at 8:30 a.m. Committee Members Paul Gregson, Doug Brower, and Lino Mogni were present along with Deputy City Clerk Kristene Tavares, and City Clerk Jennifer Church.

There were no Modifications to the Agenda.

There were no Public Comments.

484 Main Street: The Design Review Committee was presented with pictures of the building and existing deck as well as plans for the new deck and siding. **MOTION** to make the required findings of fact listed in Attachment A to **APPROVE** the Design Review Use Permit, subject to the conditions of approval listed in Attachment B, to replace deck with cedar lumber and replace damaged members underneath. Also repair siding on the rear of building as needed, color scheme will match existing. **(Gregson/Brower) Unanimous**

1182 Main Street: The Design Review Committee was presented with a picture of the home and existing fence as well as plans for the new fence. **MOTION** to make the required findings of fact listed in Attachment A to **APPROVE** the Design Review Use Permit, subject to the conditions of approval listed in Attachment B, to replace existing fence and paint fence to match trim on house. **(Gregson/Brower) Unanimous**

1467 Main Street: The Design Review Committee was presented with pictures of the home and damaged siding as well as paint swatches for proposed new color scheme. **MOTION** to make the required findings of fact listed in Attachment A to **APPROVE** the Design Review Use Permit, subject to the conditions of approval listed in Attachment B to replace siding on home with 1' X 6' tapered redwood siding and repaint house and garage with proposed color scheme. **(Gregson/Brower) Unanimous**

There was no Correspondence.

Committee Member Comments: Committee members would like state regulation for historic district. Staff will put together information regarding this issue and present it at next regular meeting. Committee would also like minutes from the previous meeting to be in packet regardless if it is a special or regular meeting. Staff will comply with this request.

Meeting adjourned at 8:45 a.m.

Respectfully submitted,

Kristene Tavares, Deputy City Clerk
City of Ferndale

City of Ferndale, Humboldt County, California USA
Design Review Minutes for the 08/28/14 - 8:30am meeting

Chairman Mark Giacomini opened the meeting at 8:31 a.m. Committee Members Paul Gregson, Doug Brower, and Lino Mogni were present along with Deputy City Clerk Kristene Tavares.

Approval of Previous Minutes: **MOTION to APPROVE** July 27, August 7, and August 14, 2014 meetings minutes. **(Gregson/Brower) Unanimous**

There were no Modifications to the Agenda.

There were no Public Comments.

Discussion on Applications Involving Non-Visible Changes: The Design Review Committee was presented with Memorandums from City Planner Melanie Rheaume regarding the backs and sides of buildings in the Historic and Design Review Zones. Staff explained that Section 6.05.2 of City of Ferndale Zoning Ordinance explains that a Design Review Permit must be obtained before any changes may be made. Staff also explained that because the Zoning Ordinance does not specify that changes must be visible from a public right of way, Committee must review all projects in Design Review Zoning. Committee Member Gregson thanked staff for the information provided. Committee Member Mogni would like to see Zoning Ordinance pertaining to Design Review.

Design Review Sign-Off's: The following DR Permits were signed off: DR1404, DR 1414, DR1416, and DR1419. Also Chair Mark Giacomini asked that letters be sent to DR1333 and DR1339 asking to get an extension or reapply when ready for project is ready to begin.

There was no Correspondence.

There were no Committee Member Comments.

Meeting adjourned at 8:54 a.m.

Respectfully submitted

Kristene Tavares, Deputy City Clerk
City of Ferndale

Section 8: CORRESPONDENCE

**DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF HOUSING POLICY DEVELOPMENT**

2020 W. El Camino Avenue, Suite 500
Sacramento, CA 95833
(916) 263-2911 / FAX (916) 263-7453
www.hcd.ca.gov

RECEIVED
SEP 08 2014



August 29, 2014

BY:.....

MEMORANDUM FOR: Local Governments on a Five (5) Year Housing Element Schedule

FROM:

Glen A. Campora, Assistant Deputy Director
Division of Housing Policy Development

SUBJECT:

Option to Change Next Housing Element Updates from a
5-Year to a 8-Year Schedule

This memorandum provides **time-sensitive** information to local governments interested in changing their housing element (HE) schedule for the next 6th cycle update from a 5-year HE planning period to an 8-year HE planning period. Attachment 1 identifies Senate Bill 375 (Steinberg, Chapter 728, Statutes of 2009) statutory amendments providing an option to applicable transportation agencies to change the update schedule for the regional transportation plan (RTP) and housing element (HE).

A metropolitan planning organization (MPO) or regional transportation planning agency (RTPA) on a 5-year regional transportation plan (RTP) update schedule can elect to adopt its RTP every four years. After the election is made, all local governments within the region of the MPO or RTPA change from a 5-year to an 8-year HE planning period beginning with the next HE update.

For the next 6th cycle housing element update, the MPO or RTPA must make its election before December 31, 2014, at least 54 months prior to the next 6th cycle HE due date (June 30, 2019) for local governments currently on a 5th cycle 5-year HE update schedule. Attachment 2 identifies MPOs and RTPAs on a 5-year RTP update schedule and local governments on a 5-year HE update schedule.

In considering the option to change the update schedule for the next RTP in order to change the next housing element update schedule and planning period from five (5) to eight (8) years, the MPO or RTPA is required to hold a public hearing and notify the public and localities at least 30 days before the hearing. If the election is made, the Department must be promptly notified and the next RTP must be completed within three (3) years of the notification of electing a 4-year RTP update schedule. Local governments will have a new HE due date based on the requirement to update and adopt the housing element no later than 18 months from adoption of the RTP.

Local governments interested in changing from a 5-year to an 8-year housing element planning period should quickly communicate with the MPO or RTPA to take necessary actions by specified time periods. Please contact the Department at 916-263-2911 for questions or technical assistance.

**MPO/RTPA Option to Change
RTP Update Schedule from Five (5) Years to Four (4) Years and
Housing Element Update Schedule from Five (5) Years to Eight (8) Years
SB 375 (Steinberg, Chapter 728, Statutes of 2008)
*(underlining added for emphasis)***

65080(b)(2)(L) Option to Change RTP Update Schedule from Five Years to Four Years

(L) A metropolitan planning organization, or a regional transportation planning agency not within a metropolitan planning organization, that is required to adopt a regional transportation plan not less than every five years, may elect to adopt the plan not less than every four years. This election shall be made by the board of directors of the metropolitan planning organization or regional transportation planning agency no later than June 1, 2009, or thereafter 54 months prior to the statutory deadline for the adoption of housing elements for the local jurisdictions within the region, after a public hearing at which comments are accepted from members of the public and representatives of cities and counties within the region covered by the metropolitan planning organization or regional transportation planning agency. Notice of the public hearing shall be given to the general public and by mail to cities and counties within the region no later than 30 days prior to the date of the public hearing. Notice of election shall be promptly given to the Department of Housing and Community Development. The metropolitan planning organization or the regional transportation planning agency shall complete its next regional transportation plan within three years of the notice of election

65588(e)(3)(C) Action Required to Change Housing Element from Five Years to Eight Years

(C) If a metropolitan planning organization or a regional transportation planning agency subject to the five-year revision interval in subparagraph (B) makes an election pursuant to subparagraph (L) of paragraph (2) of subdivision (b) of Section 65080 after June 1, 2009, all local governments within the regional jurisdiction of that entity shall adopt the next housing element revision no later than 18 months after adoption of the first regional transportation plan update following the election. Subsequent revisions shall be due 18 months after adoption of every second regional transportation plan update, provided that the deadline for adoption is no more than eight years later than the deadline for adoption of the previous eight-year housing element

Transportation Planning Agencies Currently on a 5-Year Schedule to Update the Regional Transportation Plan	Local Governments Currently on a 5-Year Schedule to Update the Housing Element
Alpine County Transportation Commission	Alpine County
Amador County Local Transportation Commission	Amador County and all cities
Calaveras Council of Governments	Calaveras County and all cities
Colusa County Local Transportation Commission	Colusa County and all cities
Del Norte County Local Transportation Commission	Del Norte County and all cities
Glenn County Local Transportation Commission	Glenn County and all cities
Humboldt County Association of Governments	Humboldt County and all cities
Inyo County Local Transportation Commission	Inyo County and all cities
Lake County/City Area Planning Council	Lake County and all cities
Lassen County Transportation Commission	Lassen County and all cities
Mariposa County Local Transportation Commission	Mariposa County
Mendocino Council of Governments	Mendocino County and all cities
Modoc County Transportation Commission	Modoc County and all cities
Mono County Local Transportation Commission	Mono County and all cities
Nevada County Transportation Commission	Nevada County and all cities
Plumas County Transportation Commission	Plumas County and all cities
San Luis Obispo Council of Governments	San Luis Obispo County and all cities
Shasta County Regional Transportation Planning Agency	Shasta County and all cities
Sierra County Transportation Commission	Sierra County and all cities
Siskiyou County Transportation Commission	Siskiyou County and all cities
Tehama County Transportation Commission	Tehama County and all cities
Trinity County Transportation Commission	Trinity County
Tuolumne County Transportation Council	Tuolumne County and all cities

List information was obtained from Cal Trans links:

[www.dot.ca.gov/hq/tpp/offices/orip/rtp/index_files/MPO RTP Status Chart Website 2014-05-16.pdf](http://www.dot.ca.gov/hq/tpp/offices/orip/rtp/index_files/MPO_RTP_Status_Chart_Website_2014-05-16.pdf)
[www.dot.ca.gov/hq/tpp/offices/orip/rtp/index_files/RTPA RTP Status Chart 6-02-14 KJD.pdf](http://www.dot.ca.gov/hq/tpp/offices/orip/rtp/index_files/RTPA_RTP_Status_Chart_6-02-14_KJD.pdf)

Section 9: COMMISSIONER COMMENTS

Section 10: STAFF REPORTS

Section 11: ADJOURNMENT