

The Development Code requires WECS be sited behind the rear line of the primary structure with a minimum setback distance from all property lines, overhead utility lines, utility easements or rights-of-way equal to 110% of the WECS height. There is no maximum height for free-standing WECS, provided that the structure meets the minimum setback requirements. Roof-mounted WECS are subject to the maximum height permitted within the applicable zoning designation.

The Planning Commission has the ability to approve, conditionally approve, modify or deny any request for the installation of WECS. The Commission may establish conditions and limitations necessary to minimize detrimental effects on surrounding property and/or the general public. The Code states that, when making a determination to approve any WECS, consideration shall be given to compatible design, simplicity and effectiveness, and conformance to the design guidelines adopted for the applicable zoning designation.

Neighboring Agency Requirements

- Victorville –
 - Conditional Use Permit required for installation.
 - Permitted in all zones, except multi-family, with a minimum lot size of one (1) acre.
 - The minimum height at the lowest part of the WECS shall be either thirty (30) feet above the highest structure allowed under the local zoning requirement or potential tree height, whichever is higher, if it is within a 200-foot radius. If an obstruction is within 201-foot to 500-foot radius, the lowest part of the WECS shall be ten (10) feet above it. Roof-mounted WECS are not specifically identified within the Victorville Code.
 - The WECS shall be located such that the furthest extension of the apparatus does not cross any property line.

- Hesperia -
 - Allowed as an accessory use in all zones with a minimum single-family lot size of 15,000 square feet. No minimum lot size required within multi-family or commercial zones; however a discretionary review is required.
 - The maximum height for a tower-mounted windmill is limited to that of the applicable zoning district; however, the height may be increased by fifty (50) percent with a discretionary review. Roof-mounted wind turbines are only permitted in commercial zones.
 - Tower-mounted windmills must be located behind the primary building, not within the front or street side yard and a minimum of 110% of the overall structure height front, side and rear property lines.

- County of San Bernardino –
 - A Wind Energy System Permit is required for all WECS exceeding thirty-five (35) feet in height.
 - Permitted in all zones, except within a designated scenic corridor.
 - The maximum height is dependent upon zoning and lot size and range from 52.5 feet to 80 feet for a one (1) acre parcel. The height for parcels greater than one (1) acre in size range from eighty (80) feet to 120 feet. A Variance may be approved authorizing additional height when deemed appropriate.
 - The minimum setback from any property line shall be equal to the system height.

Individual companies that market WECS, specifically roof-mounted systems, have contacted elected officials and city staffers throughout the region attempting to have their product identified as a permitted use. On June 9, 2011 the Hesperia Planning Commission decided to send a recommendation to its City Council to amend Hesperia's Development Code to allow roof-mounted wind turbines in all zones. The number of devices permitted per roof-top would be dependent upon the accessory structure guidelines for the applicable zoning designation.

While formulating recently revised Development Code Section 9.78 "Wind Energy Conversion Systems", allowing roof-mounted WECS was a point of discussion by the Planning Commission. Realizing that the technology is new, and that a proliferation of roof-top wind turbines would be aesthetically detrimental, the Commission was not in favor of allowing this type of device for properties less than two (2) acres in size. The idea that multiple turbines would be installed on any single roof-top was not considered. The Planning Commission has reviewed one (1) application for a WECS consisting of six (6) turbines on a single roof-top. Due to a split 2-2 vote to approve/deny the project, the Planning Commission has referred the roof-mounted WECS proposal to the Town Council for its review.

The efficiency of roof-mounted wind turbines is questionable because the companies actively marketing the roof-mounted turbines recognize the need to install multiple devices in order to achieve optimal energy production. Aside from manufacturers' test results, staff was unable to locate any results of product testing completed by independent laboratories, or testimonials or comments from any end users. On May 11, 2011, in an article titled "Turbine Tests: Should you try and catch the wind?" Consumer Reports indicates the Small Wind Certification Council will soon be releasing ratings of twenty-two (22) wind turbine systems based on performance and safety criteria developed by the American Wind Energy Association that will appear on a label on each system.

With proven efficiency, a case could be made that the power generated would outweigh the aesthetic detriment caused by a proliferation multiple turbines located upon individual roof-tops. The Town is not in a consumer advocate position; however, the Town Council should give consideration to the aesthetical detriment that a proliferation of roof-mounted WECS would cause and weigh that with the lack of reviews and documentation speaking to the efficiency of the devices.

Included as an attachment to this report, a map has been provided that identifies the location of all five (5)-acre parcels in Apple Valley. If the Council were to consider multiple, roof-mounted WECS on parcels that are five (5) acres or greater, this map shows the potential proliferation of roof mounted WECS throughout Town.

Solar Energy

Current regulations allow roof-top and ground mounted, individual photovoltaic systems in all zoning designations as an accessory use. Photovoltaic solar farms were recently amended into the Development Code and allowed with a use permit within the Apple Valley Dry Lake. Additionally, the North Apple Valley Industrial Specific Plan was recently amended to include provisions to allow photovoltaic solar farms. Residents and commercial businesses have taken advantage of the Town's willingness to encourage the use of renewable solar power. Last fiscal year, fifty-six (56) building permits were issued for photovoltaic systems with \$28,910 collected in plan review and permit fees.

Within the residential zones, flush-mount roof-top photovoltaic systems are encouraged and accounted for fifty-three (53) of the permits issued last fiscal year. Aesthetically, flush-mount, roof systems are the least visually obtrusive. Elevated, ground and roof-mounted photovoltaic systems are also permitted; however, additional site development standards apply. Staff discourages elevated roof-mounted systems, unless the solar array is mostly screened from public view.

Ground-mounted, photovoltaic systems may not be located within the required front or street side-yard setback and are considered accessory structures subject to the site development standards within the applicable zoning district. Additionally, it has been standard procedure to require ground-mounted photovoltaic systems to be screened from public view.

On September 14, 2010, the Town Council adopted Ordinance No. 412; which added photovoltaic solar farms as a permitted use within the Apple Valley Dry Lake area of the Very Low Density Residential (R-VLD) zoning designation and within the North Apple Valley Industrial Specific Plan. Additionally, the ordinance outlines the specific entitlement processes and site development standards for the development of solar voltaic farms.

Photovoltaic solar farms, ten (10) acres or less in size, may be reviewed administratively under a Special Use Permit. When a project is located within the North Apple Valley Industrial Specific Plan, a Site Plan Review is required. Solar farms greater than ten (10) acres and less than 400 acres are subject to the review and approval of a Conditional Use Permit by the Planning Commission. Solar farms greater than 400 acres are prohibited. Specific site development standards are as follows:

North Apple Valley Industrial Specific Plan

North Apple Valley Industrial Specific Plan Section III.E.10 "Photovoltaic Solar Farms" states the following:

"All photovoltaic solar farms within the I-SP, I-G and IA-SP Districts shall be fenced with chain link or wrought iron fencing a maximum of ten (10) feet high. The use of barbed wire and outdoor lighting is prohibited. Solar Panels shall have a maximum height of thirty-five (35) feet within the Airport Influence area (A-1) and fifty (50) feet in Airport Influence area (A-2), I-SP and I-G. Photovoltaic solar farms greater than 10 acres in size shall be located east of Navajo Road. Street setbacks shall be the minimum landscape setbacks as described in Table III-2 of this Section. Interior setbacks shall be zero. Setbacks from rock outcroppings shall be twenty-five (25) feet. All buildings ancillary to the solar farm shall comply with the development standards in Table III-2 of this Section. Decorative gravel/rock shall be placed along the street frontage from the back of curb to the setback line. There is no requirement for off-street parking. All adjacent roadways shall be improved to Town standards for industrial areas."

Apple Valley Dry Lake

Development Code Section 9.29.190 "Photovoltaic Solar Farms" states the following:


"All photovoltaic solar farms shall be fenced with chain link or wrought iron fencing a maximum of ten (10) feet high. The use of barbed wire and outdoor lighting is prohibited. The permanent height of the solar panels shall have a maximum height of thirty-five (35) feet and the moveable portion of the solar panel, which rotates with the sun, shall not exceed fifty (50) feet in height. Street setbacks from a major or secondary roadway shall be a minimum of twenty-five (25) feet and street setbacks from local roadways shall be five (5) feet. Interior setbacks shall be zero. Setbacks from lot lines of existing single family residences shall be twenty-five (25) feet. All buildings ancillary to the solar farm shall comply with the Residential-Very Low Density (R-VLD) development standards and shall be built on a pad with an elevation at or above 2,911 feet. Street improvements to secondary and major roadways shall be installed in accordance with the Town requirements. All other roadways providing access to the project may be improved with all weather materials as required by the Town Engineer and maintained in a dust-free manner and kept clear of any litter, trash or debris. There is no requirement for off-street parking."

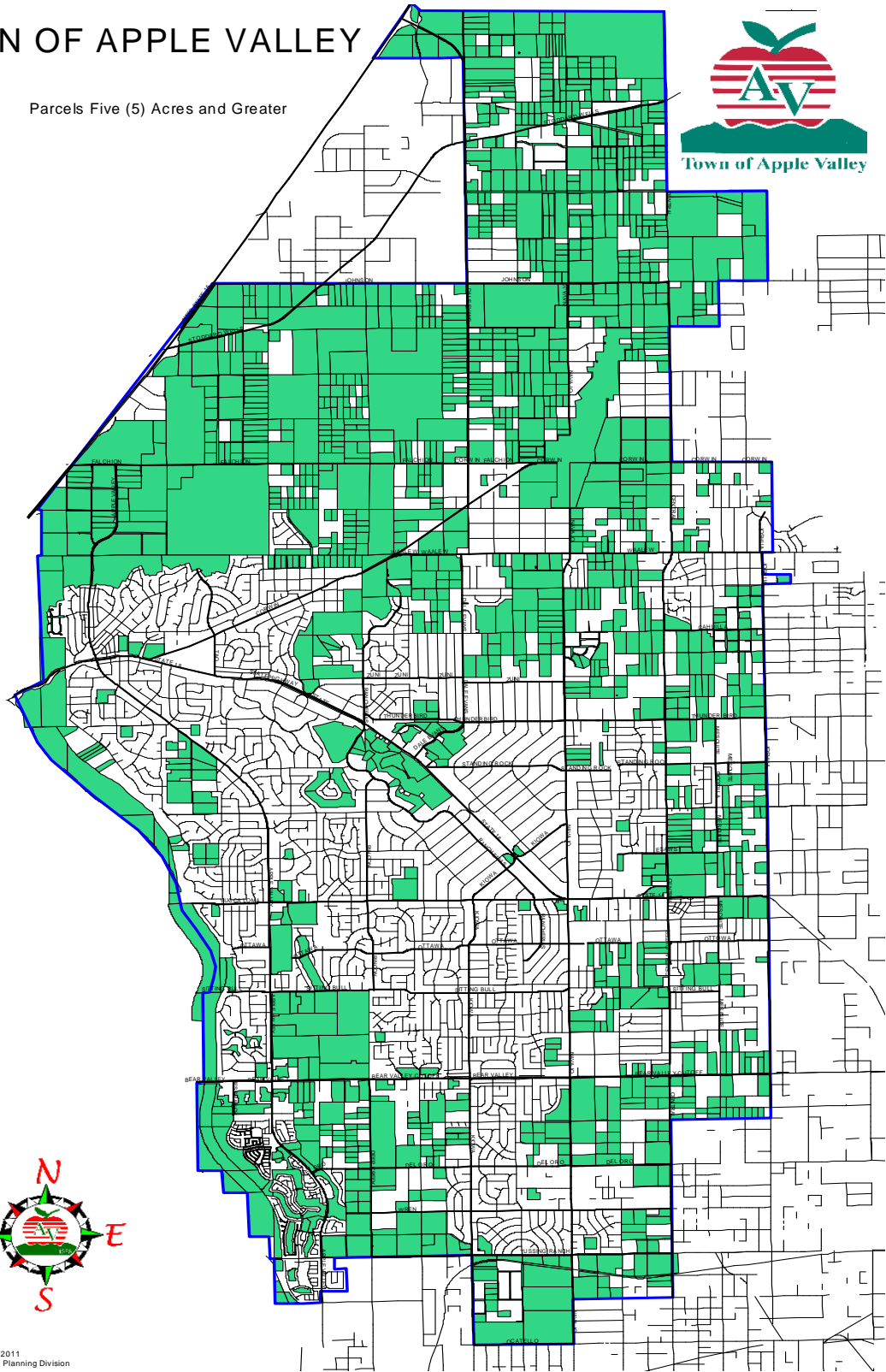
Neighboring Agency Requirements

- Victorville allows solar panels as an accessory use in all areas, subject to the ministerial review of a building permit. Solar farms are considered power generation facilities and are only permitted within a small portion of SCLA with a Use Permit.
- Hesperia permits solar energy systems as an accessory use only in all zoning designations. Roof-mounted solar energy systems are permitted with a ministerial review, provided that panels along the street frontage are flush-mount or an integral to the roof material. A discretionary review process is required if the elevated, roof-mounted panels are intended to face the street. Within the commercial zones, roof-mounted solar energy systems require a discretionary review. Hesperia's Development Code does not address solar farms.
- County of San Bernardino permits all accessory use solar panels with ministerial review of a building permit. Solar farms are permitted within the Resource Conservation (RC), Agriculture (AG), Floodway (FW), Rural Living (RL) and Regional Industrial (IR) land use designations. The minimum project area within the RL designation is twenty (20) acres. The required setbacks from the property lines are either pursuant to the standards in the Land Use Zoning District or 130 percent of the mounted structure height, whichever is greater. Special fencing standards may be applied. No other specific on-site or off-site improvement requirements are identified for solar energy generation facilities.

Based upon the foregoing, staff recommends adoption of the form motion.

TOWN OF APPLE VALLEY

 Parcels Five (5) Acres and Greater



July 12, 2011
Town of Apple Valley Planning Division