



KENNEDALE
Planning and Zoning Commission
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KENNEDALE PLANNING & ZONING COMMISSION
AGENDA
COMMISSIONERS - REGULAR MEETING
May 18, 2017
CITY HALL COUNCIL CHAMBERS, 405 MUNICIPAL DRIVE

WORK SESSION - 6:00 PM
REGULAR SESSION - 7:00 PM

I. CALL TO ORDER

II. ROLL CALL

III. WORK SESSION

- A. Discuss any item on the regular session agenda
- B. Discuss tiny house concept
- C. Discuss regulations for solar energy equipment as an accessory use
- D. Discuss regulations for shipping containers
- E. Discuss concept of planned development district for infill properties

IV. REGULAR SESSION

V. CALL TO ORDER

VI. ROLL CALL

VII. MINUTES APPROVAL

- A. Review and consider approval of minutes from the February 2017 Planning & Zoning Commission extra work session
- B. Consider approval of minutes from the April 2017 Planning & Zoning Commission meeting

VIII. VISITOR/CITIZENS FORUM

At this time, any person with business before the Planning and Zoning Commission not scheduled on the Agenda may speak to the Commission, provided that an official 'Speaker's Request Form' has been completed and submitted to the Commission Secretary prior to the start of the meeting. All comments must be directed towards the Chair, rather than individual commissioners or staff. All speakers must limit their comments to the subject matter as listed on the 'Speaker's Request Form.' No formal action can be taken on these items.

IX. REGULAR ITEMS

X. REPORTS/ANNOUNCEMENTS

XI. ADJOURNMENT

In compliance with the Americans with Disabilities Act, the City of Kennedale will provide for reasonable accommodations for persons attending City Council meetings. This building is wheelchair accessible, and parking spaces for disabled citizens are available. Requests for sign interpreter services must be made forty-eight (48) hours prior to the meetings. Please contact the City Secretary at 817.985.2104 or (TDD) 1.800.735.2989

CERTIFICATION

I certify that a copy of the May 18, 2017, Planning and Zoning Commission agenda was posted on the City Hall bulletin board next to the main entrance of the City Hall building, 405 Municipal Drive, of the City of Kennedale, Texas, in a place convenient and readily accessible to the general public at all times and said agenda was posted at least 72 hours preceding the schedule time of said meeting, in accordance with Chapter 551 of the Texas Government Code.



Rachel Roberts, Board Secretary



STAFF REPORT TO THE BOARD OF DIRECTORS

Date: May 18, 2017

Agenda Item No: WORK SESSION - A.

I. Subject:

Discuss any item on the regular session agenda

II. Originated by:

III. Summary:

IV. Notification:

V. Fiscal Impact Summary:

VI. Legal Impact:

VII. Recommendation:

VIII. Alternative Actions:

IX. Attachments:



STAFF REPORT TO THE BOARD OF DIRECTORS

Date: May 18, 2017

Agenda Item No: WORK SESSION - B.

I. Subject:

Discuss tiny house concept

II. Originated by:

Rachel Roberts, City Planner

III. Summary:

At this time, the Commission will hear a brief presentation from Maria and John Thibodeau, who are interested in pursuing a tiny house development project in Kennedale. The Thibodeaus have recently attended an information event on the tiny house concept and would like to share the information they learned with the Planning & Zoning Commission in order to get additional input before they prepare a rezoning or other development application.

IV. Notification:

V. Fiscal Impact Summary:

VI. Legal Impact:

VII. Recommendation:

None

VIII. Alternative Actions:

IX. Attachments:

STAFF REPORT TO THE PLANNING & ZONING COMMISSION

Date: May 18, 2017

Agenda Item No: WORK SESSION ITEMS (C)

I. SUBJECT

Discuss regulations for solar energy equipment as an accessory use

II. SUMMARY

Last month, the Planning & Zoning Commission recommended approval of an ordinance allowing solar energy equipment as an accessory use in all commercial and industrial zoning districts. The Commission requested that staff next bring forward an ordinance with additional regulations for solar energy equipment. This report describes current regulations, some concerns that may arise from allowing solar equipment, and possible regulations to address those concerns.

EXISTING REGULATIONS FOR SOLAR ENERGY EQUIPMENT (ACCESSORY USE)

The City of Kennedale has the following regulations in place for solar energy equipment.

A. *Freestanding Equipment.* Freestanding solar collectors are accessory use structures and shall be subject to the requirements for such, together with all other applicable building codes and ordinances, including height limits.

B. *Attached Equipment.* A structurally attached solar collector is attached to an existing structure's roof or wall or serving as a structure's roof, wall, window or other structural member.

1. Structurally attached solar collectors installed on a building with a sloped roof shall not project vertically above the peak of the roof.
2. Structurally attached solar collectors installed on a building with a flat roof shall not project vertically more than five (5) feet above the roof.
3. Roof-mounted or structurally attached solar energy systems shall comply with the maximum height requirements in the applicable zoning district.

C. *Permitting.* A building permit, electrical permit, or any other permit related to work required to

install solar energy equipment shall be obtained prior to installation of any solar energy equipment.

CONCERNS / ISSUES RELATED TO USE OF SOLAR ENERGY EQUIPMENT

There are several concerns that typically arise in regard to solar energy equipment. For example:

Aesthetics – How will the equipment look? Will it fit the character of the neighborhood where it's located?

Safety – How do we ensure equipment is installed correctly? Can fire fighters still have access to the roof?

Durability – Will the equipment last in our climate (large hail, tornadoes, etc.)? Should the city regulate this aspect of solar energy equipment?

Solar access – What happens if someone plants landscaping materials or builds a structure that blocks solar access for an existing solar energy system?

The city's existing regulations address some of these concerns. For example, in terms of aesthetics, the city has some regulations regarding height of equipment. And in terms of safety, the city's permitting process works to ensure equipment is safely installed. But are there other concerns not currently addressed that the Commission would like the city's regulations to cover?

For your reference, two articles from the American Planning Association are attached to this report. The articles describe some issues that may arise from the use of solar energy equipment and how cities might resolve those issues.

REGULATIONS ADDRESSING SOLAR ENERGY CONCERNS

The City of Kennedale is participating in the SolSmart program, which is an initiative through the U.S. Department of Energy to make it easier for people to have access to solar energy. The North Central Texas Council of Governments (NCTCOG) is providing technical assistance to the city as part of that program. This assistance includes reviewing our ordinances and suggesting improvements. After we have received the recommendations from NCTCOG, we will be prepared to bring forward an ordinance for the Commission's consideration. In the meantime, staff would benefit from knowing about any specific concerns the Commission members may have.



Integrating Solar Energy into Local Development Regulations

Many communities recognize the economic and environmental benefits of local renewable energy, generally, and solar energy, specifically. Homes and businesses with solar installations will have lower energy bills, and new solar energy systems mean new jobs for local installers. Also, by increasing their use of solar energy, communities can decrease air pollution, greenhouse gas emissions, and the secondary impacts that mining or drilling for fossil fuels have on the environment and surrounding communities.

One of the keys to local solar market growth is a supportive regulatory environment. Planners write, amend, and administer standards, policies, and incentives that have important influences on the nature and timing of future private development as well as what, where, and how local resources are used or protected. Applying this idea to the solar resource, planners can examine zoning codes, building codes, subdivision codes, and other regulations and ordinances to determine if—and how—they address solar energy, and whether barriers, either intentional or unintentional, exist. Where codes are silent on the subject, they can propose amendments to enable communities to take advantage of this clean, local energy source, and suggest incentives to encourage solar energy use.

This briefing paper provides planners, public officials, and engaged citizens with an overview of three aspects of integrating solar energy into local development regulations—removing barriers, creating incentives, and enacting standards—and

offers examples from communities across the country that are taking steps to support local solar market growth.

Preparing for Regulatory Change

Before initiating regulatory reform, planners have a responsibility to help communities clarify how their goals and priorities relate to solar energy use. In practice this often means formally introducing solar energy into the community conversation and educating residents and business owners about the local solar market. See the first briefing paper in this series, “Solar Community Engagement Strategies for Planners,” for more information on responding to common questions and concerns about solar and using public engagement techniques to broaden the conversation. It is also important that planners help incorporate solar energy into the community’s guiding document, its comprehensive plan. The third briefing paper in this series, “Integrating Solar Energy into Local Plans,” explains how weaving goals, objectives, policies, and actions that support solar energy use into the local comprehensive plan makes these connections official and sets the foundation for taking action and realizing renewable energy goals.

Removing Barriers

Regulatory barriers to solar energy development can take a number of forms. Some barriers are obvious: homeowners’ as-

sociation covenants or design review requirements that prohibit or restrict solar panel installation, or zoning ordinances that restrict the types of districts in which solar facilities are allowed. Other barriers are more subtle, such as height restrictions, lot coverage limitations, or setback requirements that do not allow for the placement of solar panels on existing rooftops or building sites. Screening requirements for rooftop equipment and landscaping requirements that limit access to solar resources can also act as barriers, as can silence on solar energy systems in permitted use listings or design standards.

Though private homeowners' association covenants and restrictions are typically outside the control of local government, more than half of all states have passed solar rights laws that either limit the restrictions that private covenants can place on solar energy system installation or explicitly enable local governments to adopt regulations aimed at protecting solar access (DSIRE 2012a). Planners in these states can raise awareness around this issue and ensure that residents and local officials understand when private restrictions on solar energy systems will be preempted by state or local protections. In states without such protections, planners can encourage home-rule municipalities to adopt local provisions limiting private restrictions on solar energy system installation. The Model Solar Energy Standards provided by the Minnesota Environmental Quality Board offers the following sample language: "Restrictions on Solar Energy Systems Limited: No homeowners' agreement, covenant, common interest community, or other contract between multiple property owners within a subdivision of [Community] shall restrict or limit solar energy systems to a greater extent than [Community's] solar energy standards" (Part VI; MEQB 2012).

Planners can also introduce ordinance provisions that make solar a by-right accessory use in all zoning districts; craft exceptions to allow solar in special districts, such as historic preservation districts; add solar panels to the list of rooftop appurtenances (air conditioning units, skylights, chimneys, etc.) exempted from height restrictions; and allow modest adjustments to regulations to allow applicants access to the solar resource on their properties.

Seattle provides an example of how a community might take a close look at the solar-friendliness of its regulations. As part of its Solar America City program, the city commissioned a gap analysis of its municipal code to determine how well it complied with identified best management practices for

increasing solar energy use. The final report provided recommendations for improving permitting processes and policies affecting solar energy implementation.

It is also important to provide clear information regarding the permitting process and associated code requirements for solar. In Portland, Oregon, the Bureau of Development Services has created program guides for solar energy system installation on one- or two-family homes, as well as on commercial buildings (Portland 2010). The guides define solar energy systems; explain installation requirements, including applicable development and design review standards as well as structural and electrical specifications; describe permitting requirements and processes; and offer submittal checklists for users. In San Jose, California, staff created a solar PV system residential inspection checklist to make it easier for property owners and installers to understand and track solar permitting and installation requirements (San Jose 2011).

Creating Incentives

Communities can create incentives by streamlining the approval process, reducing permitting costs, and increasing flexibility on other standards in exchange for the incorporation of solar. Tucson, Arizona, has passed resolutions waiving permitting fees through FY 2013 for qualifying solar energy systems up to a maximum of \$1,000 for a single installation or \$5,000 for a larger project. In San Diego, developers can qualify for expedited permitting by either achieving LEED certification or using solar PV to generate a certain percentage of energy needs in their projects (DSIRE 2012b).

Many zoning codes already include lists of development amenities for which developers may obtain density or floor area ratio bonuses; planners should make sure that installation of solar energy systems in new development are added to those lists. According to the zoning code of Pullman, Washington, for example, developers may obtain up to five density bonus points for new planned residential developments by incorporating solar orientation or solar energy systems into 50 percent or more of proposed dwelling units (§17.107.040).

Solar requirements may also be incorporated into municipal green building programs and policies, which typically require that new or retrofit construction meets a certain level of energy efficiency and environmental sustainability. Encouraging the incorporation of solar energy into building design and operations can be an easy way to help developers and property owners

meet these standards. Fremont, California, recently adopted a green building ordinance that requires new low-rise residential construction to either meet minimum California Green Building Code requirements or achieve 50 points on the Build It Green GreenPoint Rated checklist—and installing a solar hot water system and PV panels counts for 16 points on that checklist (§7-1920.A4.601).

Enacting Standards

Finally, planners can help communities enact standards related to solar. It is important that communities address solar in their land use and development codes to eliminate uncertainty around where solar energy systems may or may not be allowed, ensure that installations are placed in appropriate locations, and mitigate any potential negative impacts. Clear standards can also help communities avoid conflicts over competing values, such as tree cover or historic character of protected districts or structures. The fifth briefing paper in this series, “Balancing Solar Energy Use with Potential Competing Interests,” offers more information on how communities are addressing these issues. Finally, standards can help set the stage for future implementation of solar by ensuring that new development is situated for maximum solar access and new structures are wired and plumbed for solar electric and hot water systems.

When it comes to enacting standards, some baseline considerations include clarifying what types of solar systems are allowed and where; mitigating potential nuisances associated with solar equipment, such as visual impacts or encroachment; and addressing solar access issues. Communities should attend to basic zoning issues such as defining solar energy–related terms; determining whether solar energy systems will be allowed as primary or accessory uses in each zoning district; setting forth height, lot coverage, and setback requirements; and describing relevant development standards for solar energy systems such as screening and placement (on building or site). Communities may also tackle solar easement and access requirements; site planning guidelines for lot and building orientation that maximize solar access; and solar-ready development standards wherein buildings are constructed to allow for the future installation of solar energy systems. Planners should also consider the context, such as residential, nonresidential, new development, or infill or redevelopment, when establishing such standards, as solar objectives may conflict with other community objectives (i.e., higher-intensity development) in some locations.

While specific standards will vary from community to community based on the community’s goals and local context, there are a number of common types of provisions related to different aspects of solar energy use.

Accessory Solar Energy Systems

Say “solar energy” and most people think of solar panels on a roof. Indeed, small-scale—or, more accurately, accessory—solar energy systems in the form of ground-mounted or rooftop solar installations alongside or on a primary structure are the most common and familiar manifestation of solar energy implementation. These systems can range from a few solar panels or a solar hot water system installed on a residential bungalow to a much larger PV installation on the rooftop of a big-box warehouse or municipal building. The impacts of these systems are typically minimal, and rooftops in particular provide a vast amount of potential space for installing solar and generating electricity with no additional land consumption or impervious surface increase. The main concerns regarding these systems tend to be aesthetic: how and where systems are placed on a property. The basic considerations for these facilities are to make sure they are permitted in appropriate locations throughout the community and to address specific requirements by location.

Communities may address accessory solar energy systems in their codes in a number of ways. Some line-list them as permitted uses in defined districts; others define solar energy systems through accessory use provisions as permitted by right in both residential and nonresidential districts, often subject to



Impacts of accessory solar energy systems are typically minimal. (Image courtesy of DOE/NREL)

specific development standards. Still other communities adopt a stand-alone chapter or section of the zoning code addressing solar energy (and often other renewable energy sources such as wind), stating where it is permitted and laying out specific development standards. Related definitions may be listed in that section, but are typically added to the zoning code's definitions section. A separate section may be the most user-friendly option, as residents can find all the information on solar in one spot, though an integrated approach, especially if the entire code is being updated, may allow for a more streamlined document overall.

Specific development standards typically address placement. Some communities encourage rooftop over ground-mounted systems and many communities require rooftop panels to be located on side or rear roof slopes rather than street-facing roof slopes, when possible, for aesthetic reasons. Some ordinances limit the height that rooftop panels may extend above the roofline (often 2 or 3 feet), while others exempt solar panels altogether from district height restrictions, along with other typical rooftop structures such as chimneys, air conditioning units, or steeples. Many ordinances also address system appearance, requiring neutral paint colors and screening of nonpanel system components. For ground-mounted systems, communities often restrict location to side or rear yards and sometimes require screening from public rights-of-way. In all placement and screening considerations, however, the effects of requirements on the efficacy of the panels' operation must be considered, and most ordinances provide for some degree of flexibility to ensure that property owners can work within site and structural constraints to achieve reasonable solar collection.

While accessory solar facilities are typically installed to meet on-site power needs for buildings and other uses, there is no need to place limitations on the size or power production capacity of an accessory system—height and location restrictions will place reasonable constraints on the size or extent of panels and their placement. In most states, net-metering arrangements allow solar energy system owners to feed excess energy back into the grid, “turning the meter backwards” and earning credits for that electricity, which can serve as a further incentive for solar energy installation—not to mention a local, decentralized power generation source. Adding stipulations that accessory systems be limited in capacity to on-site power needs or implementing an arbitrary system size cap can only act as a barrier to solar implementation.

Finally, some communities require that solar systems remain well-maintained throughout their working life, and mandate the decommissioning of panels once they cease to function properly or if they are abandoned for a certain length of time. This ensures safety and prevents obsolete or damaged panels from becoming hazardous or aesthetically blighting.

Some examples of accessory solar energy system provisions include those of Bethany Beach, Delaware, which added a stand-alone chapter on solar energy systems to its Town Code in 2010 (Chap. 484). It begins with a section on legislative intent that references solar energy's role in mitigating the need for additional electrical generation and reducing atmospheric pollution and encourages the use of solar energy systems in the town. Subsequent provisions establish solar energy systems as permitted uses in all zoning districts and encourage panel placement on side and rear roof slopes of principal buildings. There are no limits to the number of panels that may be installed as part of the system, though the main purpose of the system must be to generate power for onsite use—commercial solar operations are prohibited within the town. Hermosa Beach, California, addresses solar energy systems in the yard, height, and area restrictions chapter of its zoning code (§17.46.220). It allows solar energy systems to exceed height limits to the minimum extent necessary for safe and efficient operation and provides flexibility in modifying other development standards that might reduce system performance. Minneapolis, Minnesota, permits building-mounted or freestanding (ground-mounted) solar energy systems in all zoning districts subject to height limits and required setbacks (§537.110). Solar energy systems that do not comply with those regulations may be allowed by conditional use permit.

Solar Energy Systems as Primary Uses

As interest in renewable energy increases and more states pass renewable energy portfolio standards that require a certain percentage of state energy use to come from renewable sources, large utility-scale “solar farms”—centralized facilities that comprise the primary or principal use on a site—are gaining in numbers. These typically large-scale systems can have very different impacts on land use than accessory systems and may give rise to public concerns over these impacts. Planners should make sure that their communities' land-use codes allow for these uses where appropriate and that any potential nuisances are mitigated.



Primary-use solar farms, often large in scale, should be regulated to mitigate potential impacts. (Image courtesy of DOE/NREL)

When solar energy systems constitute a primary land use, most or all of the electricity produced is consumed off site. A major difference between these solar farms and small-scale, accessory systems is the amount of land that they occupy. As noted, most accessory use systems are placed on rooftops or limited by lot coverage or setback requirements and therefore have little to no impact on land use or consumption. In contrast, primary-use systems are ground-mounted and can range in size from less than an acre in urban settings to hundreds of acres in remote locations. This can raise concerns regarding impervious surface coverage, tree and habitat loss, transmission infrastructure, and construction impacts. Solar farm proposals can become controversial, especially when greenfields or productive agricultural lands are proposed as sites. Indeed, Santa Clara County, California, specifically prohibits commercial solar energy conversion systems on land designated for large-scale agriculture by the general plan, and allows this use on only those medium-scale agricultural lands that are deemed to be of marginal quality for farming purposes (Ord. NS-1200.331). On the other hand, a primary-use “community solar garden,” in which local residents can purchase shares to support renewable energy production as an alternative to installing their own individual systems, may be fairly small in size and a more appropriate fit within developed areas.

Planners should be aware that primary-use renewable energy facilities can be a great match for vacant industrial or brownfield sites. The site cleanup requirements for a solar farm are typically less extensive and costly than they would be for recreational, commercial, or residential uses, and a solar farm can be dismantled and moved to make way for a higher and better use of the property if other redevelopment opportuni-

ties eventually arise. See the sixth briefing paper in the series, “Recycling Land for Solar Energy Development,” for guidance on taking advantage of these opportunities.

Because of the greater impacts that may be associated with primary-use solar energy systems, many communities restrict their locations to rural, industrial, agricultural, or certain commercial zoning districts. Solar farms may be allowed as by-right uses, but typically in very limited locations; more frequently they are designated as conditional or special uses. Common development standards include height limitations, setbacks from property lines or neighboring structures, and screening from adjacent public rights-of-way. For security and safety reasons, many communities require that solar farms be securely fenced, that warning signs be posted, and that on-site electrical interconnections and power lines be installed underground. Some communities establish a minimum lot size to better control where these facilities can be located within their jurisdictions.

Some communities also provide some guidance for the permitting process. Required documentation for a solar farm permit typically includes a detailed plot plan, as well as an agreement with a utility for interconnection of the completed facility. Some ordinances include stormwater management considerations, and in more rural communities or areas that abut public land environmental analysis for potential impacts on wildlife and vegetation may be required. Finally, decommissioning of facilities once they are no longer operational is typically required, with some communities requiring restoration of the site to its previous condition, especially for formerly agricultural lands.

Cities and counties throughout the country have adopted regulations for primary-use solar energy systems. For example, Erie, Pennsylvania, permits urban solar farms by right in certain industrial and manufacturing zones, and as a conditional use in others (Ord. 4-2010). Fencing, safety signage, and undergrounding of on-site power lines are required. Permit applications require a plot plan and utility notification, and solar farms inactive for one year must be removed and the site restored to its natural condition within six months of the removal. Granville County, North Carolina, permits ground-mounted solar energy systems as conditional or limited approval uses in industrial districts; other provisions establish height, setback, and screening requirements and require compliance with building and electrical codes (§32-233). Iron County, Utah, provides 13 considerations for conditional use review for solar power plants, including siting considerations, analysis of local economic ben-

efits, visual impacts, environmental analysis, and transportation plans for construction and operation phases (Chap. 17-33).

Solar Access Ordinances

Allowing solar energy systems is key to encouraging local renewable energy production, but standards that define and protect the rights of property owners to sunlight are also important. Solar access ordinances guarantee property owners a reasonable amount of sunlight and protect installed systems

from being shaded by structures and vegetation. There is currently no federal property “right” to sunlight for solar energy production. The only places where such a right exists is in states that have passed such statutes, and in places where local governments have created some sort of a “right” via ordinance. See the fifth briefing paper in this series, “Balancing Solar and Other Potential Competing Interests in Communities,” for more information on how states and municipalities are addressing this issue.

Resources: Solar Energy in Development Codes

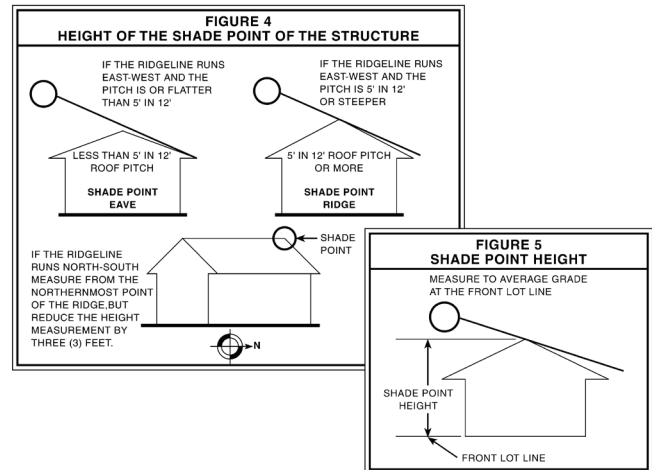
The following are some resources that provide guidance on integrating solar energy into land development regulations and processes:

- “Planning and Zoning for Solar Energy” (American Planning Association, PAS Essential Info Packet 30, 2010; www.planning.org/pas/infopackets/open/eip30.htm). This packet offers background articles and reports on planning and zoning for solar energy, as well as a collection of model and sample ordinances on a range of solar code elements.
- “SunShot Solar Outreach Partnership” (American Planning Association, 2012; www.planning.org/research/solar/). This site offers additional resources on planning and zoning for solar energy, including solar zoning FAQs, an annotated resource list, and links to webinars on solar energy implementation.
- “DSIRESolar” (Database of State Incentives for Renewables and Efficiency, U.S. DOE, 2012; www.dsireusa.org/solar). This comprehensive online searchable database lists federal, state, and local solar-related incentives, policies, and regulations by state.
- “Site Design Strategies for Solar Access” (Section 8.2, *Sustainable Community Development Code*, Rocky Mountain Land Use Institute, 2012; www.law.du.edu/index.php/rmlui/rmlui-practice/code-framework/model-code). This model code framework offers ideas and examples for removing barriers, creating incentives, and enacting standards for solar energy.
- “City of Seattle Code Review: Final Gap Analysis Report” (HDR Engineering, Inc., prepared for U.S. Department of Energy National Renewable Energy Laboratory and City of Seattle, 2010; http://www.seattle.gov/dpd/cms/groups/pan/@pan/@sustainableblding/documents/web_informational/dpdp018774.pdf). This report describes an audit of Seattle’s codes relative to solar energy development and lists best practices for a range of solar code elements.
- “Profiles in Regional Solar Planning: A Handbook and Resource Guide” (National Association of Regional Councils, 2012; <http://narc.org/wp-content/uploads/DOE-Solar-Handbook.pdf>). This guidebook offers case studies and tools for regional implementation of solar.
- “Solar Ready: An Overview of Implementation Practices” (NREL Technical Report TP-7A40-51296, 2012; www.nrel.gov/docs/fy12osti/51296.pdf). This report offers tools and suggestions for regulating solar-ready construction in communities.
- “Solar Powering Your Community: A Guide for Local Governments” (Second Edition, U.S. Department of Energy, Energy Efficiency and Renewable Energy, and Solar America Communities, 2011; www4.eere.energy.gov/solar/sunshot/resource_center/resources/solar_powering_your_community_guide_local_governments). This comprehensive guide to solar includes a chapter on updating and enforcing local solar rules and regulations.

Communities can provide for the protection of solar resources in three main ways: (1) solar easement, (2) solar access permit, and (3) solar “fences.” In the first case, a property owner protects access to the sunlight needed by a solar energy system by negotiating solar easements with other neighboring owners and recording them with the appropriate authorities. Some states have enacted statutes defining and enabling local solar easements; one example is New Hampshire, which offers a model “Solar Skyspace Easement” template in its state statutes (§477:51).

In the second case, a property owner provides documentation of a solar energy system to the local government and obtains a permit providing protection from shading caused by future construction or tree growth on neighboring properties. To balance the rights of other property owners, communities may allow for some degree of system shading above a threshold that ensures the system’s effectiveness will not drop below a certain percentage. For example, the Village of Prairie du Sac, Wisconsin, allows owners to obtain a solar access permit to protect their solar energy systems from “impermissible interference,” including shading of more than 95 percent of collector surface between 9 AM and 3 PM each day (Chap. 8).

In the third case, a community establishes general solar protections for designated lots in the initial subdivision process—sometimes delineated by an imaginary “fence” creating a “box” on each lot within which sunlight must fall unobstructed by neighboring structures or vegetation, often for a certain daily amount of time (commonly defined as, at minimum, between two to three hours on either side of noon on the winter solstice). Neighboring property owners are prohibited from erecting any structures that would cast shadows during that time in the lot area protected by the ordinance. Boulder, Colorado, uses this approach to establish three different “solar access (SA) areas” that balance solar access with restrictions on development density and height (§9-9-17). The code provides for a “solar fence” in the first two SA areas that sets maximum allowable shading of a lot’s building envelope; in the third SA area, solar protections are only granted for specific properties through permits. Solar access area designations may be amended by property owners through a public hearing and review process. Fort Collins, Colorado, limits the shading of structures on adjacent property to that generated by a 25-foot “hypothetical wall” located along the property line, but exempts certain high-density zoning districts from this provision (§3.2.3).



These figures from Clackamas County, Oregon, illustrate how solar access ordinances can provide detailed mechanisms for establishing and protecting access to sunlight for individual lots. (Image courtesy of Clackamas County, Oregon)

Solar Siting Ordinances

Besides allowing for the installation of solar energy systems within existing development, communities can also be proactive in designing and developing new subdivisions and structures to maximize their opportunities for using solar resources. Most existing development patterns and site layouts do not protect or take advantage of solar resources. A number of communities have added solar siting provisions to their subdivision codes or general site development standards to ensure that future development is optimally sited for solar use. These provisions sometimes go hand-in-hand with solar access requirements.

Solar siting ordinances set standards for lot size and orientation—as well as site layout for parcels—that provide for the construction of buildings whose southern sides or ends have unobstructed solar access for a designated time during each day (as in the case of solar access ordinances, typically a minimum of two to three hours on either side of noon on the winter solstice). Requirements include street and lot orientation within certain degrees of an east-west axis to ensure adequate sunlight access. Typically, a certain minimum percentage of lots within new subdivisions must then comply with these requirements. Solar siting ordinances may also place restrictions on the height and location of structures within the lot so that basic solar access to neighboring lots will not be blocked, or they may allow flexibility within setback regulations to maximize solar access for new construction. Such provisions do not only benefit

homeowners who choose to purchase and install solar energy systems, but also maximize opportunities for the design of passive heating and cooling features.

To complement its solar access provisions, Boulder requires new residential development to have roof and exterior wall surfaces that are oriented toward the sun, have unimpeded solar access, and be structurally capable of supporting solar collectors. Similarly, Laramie, Wyoming, requires at least 40 percent of lots less than 15,000 square feet in area in single- and two-family residential developments to meet its “solar-oriented lot” definition, and development plans must protect access to sunshine for solar energy systems to the maximum amount feasible (§15.14.030.A.3). Dixon, California, includes solar orientation and incorporation of solar energy systems in its list of general site design standards for single-family homes (§12.19.21).

Solar-Ready Homes

Besides drafting amendments for zoning and subdivision codes to allow for the installation of solar energy systems and to protect access to sunlight for those systems, planners can also advocate for amendments to local building codes to promote and enhance solar implementation. “Solar-ready” home provisions require new construction to be electrically wired to support the later installation of solar PV systems and plumbed to support the later installation of solar hot water systems, and for roofs to be oriented, designed, and built to easily accommodate and support solar electric or hot water systems. Constructing the building to solar-ready standards is of little use, however, if the construction details are not available when the solar installation is ready to install a new system. Local governments have roles both in encouraging solar-ready construction and in holding solar-ready documentation in the building’s permit history.

Some states, such as New Mexico, are adding solar-ready provisions to their energy codes. Local examples include Chula Vista, California, which has added photovoltaic pre-wiring requirements to its electrical code and solar water heater pre-plumbing requirements to its plumbing code that require all new residential units to include electrical conduit and plumbing specifically designed to allow the later installation of solar energy or hot water systems (§15.24.065; §15.28.015). In a different approach, Henderson, Nevada, offers solar readiness as one of a number of sustainable site and building design options developers can

choose in order to earn “points” required for development approval (§19.7.12).

Model Ordinances

Though many communities already address solar in one form or another within their codes, other planners will be starting from scratch to incorporate solar provisions into their land development regulations. Luckily, planners do not have to reinvent the wheel on this topic; there is plenty of guidance and resource material available in the form of model ordinances, best practices, and sample regulations already adopted by other communities. Planners whose communities have already adopted solar provisions can also review model and sample ordinances to make sure their regulations are up-to-date and effective.

Model ordinances exist to help communities get started. Many include commentaries or different options to educate planners as to the most important aspects of solar regulations, as well as the reasoning behind various provisions. One example is the Minnesota Environmental Quality Board’s model solar energy standards, which offers a general overview of solar energy issues and goals and provides model ordinance language and commentaries regarding rooftop and accessory structure solar installations (MEQB 2012). The model ordinance offers an extensive list of solar-related definitions and provides standards for solar energy systems as accessory uses permitted in all districts. It also addresses solar access through permitted solar easements and provides a list of incentives to promote development that integrates active solar energy systems. Another model ordinance, from the Center for Climate Change Law at Columbia Law School, focuses on small-scale solar energy systems, permitting rooftop, ground-mounted, and other systems by right in all districts subject to standards (Columbia Law School 2011). The model offers additional sections covering a fast-track solar permitting program and siting for future solar access.

Planners should remember, however, that models are just models, and as they draft new code provisions or amendments, they should be sure to tailor these regulations to local community contexts.

Conclusions

Solar energy use fosters economic activity and investment in a local resource and reduces air pollution, greenhouse gas emissions, and dependence on fossil-fuel energy sources. To help their communities better use this local energy resource, plan-

ners can highlight how local development regulations either support or inhibit the installation of both accessory and primary solar energy systems in different areas of their communities. After evaluating the effects of existing regulations, planners can then work to remove barriers, create incentives, and draft standards for solar energy use in existing and new development.

Fortunately, there are already a number of examples and models planners can look to for guidance as they seek to tailor a regulatory strategies for their communities. When consulting these existing resources, planners should adhere to three basic rules:

Use comparable examples: Identify peer communities with similar characteristics in terms of size, geography, climate, regulatory framework, development character, and natural and political environment, and review their codes as perhaps the most relevant.

Talk with the source: When possible, talk with the planners who wrote or who currently administer the ordinance. Ask them questions, such as how frequently the ordinance is being used, what's working and not working, and what they would do differently.

Do your homework: Be prepared to explain to your community members why specific aspects of your proposed regulations are necessary, and how they have been tailored to your community.

■ This briefing paper was written by Ann Dillemoth, AICP, APA Research Associate, with assistance from Brian Ross of CR Planning and Darcie White, AICP, of Clarion Associates.

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Balancing Solar Energy Use with Potential Competing Interests

Most communities pursue multiple goals simultaneously through a range of plans, policies, regulations, and programs. The decisions communities make in support of one goal may have a positive, negative, or negligible effect on other goals. When a community considers each goal in isolation, it may miss opportunities to address potential conflicts before they occur. Once a conflict exists, it may be too late to pursue a mutually beneficial solution, and communities may be forced to choose between competing interests.

As Godschalk and others have pointed out, sustainability goals are not immune to these potential conflicts of interest (Godschalk 2004; Campbell 1996). When the goal in question is promoting the installation of solar energy systems, historic preservation, tree protection, and even urban redevelopment may represent competing interests. Fortunately, planners' comprehensive approaches to problems and long-range perspectives make them uniquely positioned to address this dilemma. They consider potential tradeoffs and are charged with finding ways to balance different—and sometimes competing—community priorities and goals. Moving forward, planners can serve as key players in ensuring that these potentially competing interests successfully co-exist in the future.

Solar and Historic Preservation

Historic preservation and solar power generation are often both

part of a community's plan to become more sustainable. They have some notable similarities. Both are environmentally friendly. Historic properties were typically built with attention to climate and air circulation and with locally sourced materials, and they are usually located on walkable streets and in relatively central locations. Additionally, preservation of historic properties is "greener" than tearing down and rebuilding because of the energy and materials savings (WBDB 2012). Similarly, using renewable power from the sun in place of fossil fuels helps reduce carbon emissions that contribute to global warming.

Both have economic benefits as well. Designating a property or district as historic increases property values and attracts investment in and around the area. Homes with solar installations sell for more money while saving owners money on their energy bills (NTHP 2011).

However, while solar is part of an energy solution for the future, historic preservation is the key to protecting the community's past. Tension has developed between these two interests as communities struggle with how to both preserve their past and ensure a sustainable future.

The following discussion focuses on historic properties and historic districts, as planners have indicated that this is where they have experienced the highest potential for conflict. It should be acknowledged, however, that historic preservation is much broader than historic properties and historic districts

alone. Communities should also consider potential conflicts between solar and other historic resources including public lands, cultural landscapes, tribal properties, historic landmarks, and archaeological sites during their planning processes.

The Dilemma

Historic preservationists and residents alike have strong desires to preserve the buildings and spaces that represent our nation's heritage and tell the stories of our past. Professional preservationists have ethical obligations to protect the integrity of these resources for future generations. Changes to a building's structure or façade to support a solar installation, as well as improper placement of an installation, can threaten the historic character and architectural integrity of historic resources. Unlike solar proponents, preservationists typically recommend that historic properties exhaust all possible weatherization options prior to the installation of a renewable energy system, including sealing windows and doors and installing insulation.

In addition to the intrinsic value associated with preserving our past, there are economic arguments for preserving historic properties and districts in their unaltered state. Historic districts often have significantly higher property values than comparable undesignated areas. They also help stabilize and revitalize declining neighborhoods (NTHP 2011). Neighboring property owners and other stakeholders may be concerned that architecturally insensitive changes associated with solar installations could reduce property values for nearby properties.

Proponents of solar, however, feel that solar technology can help strengthen the environmental profile of older buildings and help jurisdictions meet aggressive energy goals. Some proponents argue that renewable energy systems are necessary for older buildings to achieve the same level of energy efficiency as modern ones and that prohibiting homeowners from installing solar on their historic properties might doom those properties to replacement by new, greener structures (Musser 2010). How a community chooses to address this potential conflict can greatly impact its ability to maximize its solar potential or to protect its historic resources. Only a few states and local governments have addressed the issue head on.

Solar and State Historic Preservation Legislation

Many states have enacted solar rights legislation, which prohibits local governments from enacting restrictions that prohibit solar. Some states allow restrictions if they are "reasonable,"

which is defined differently from state to state (Kettles 2008). In most cases, historic buildings or districts are not explicitly addressed, which makes it unclear whether historic preservation is viewed as a reasonable restriction.

There are a handful of states, however, that have specifically addressed the issue. North Carolina makes its general prohibition on the adoption of laws restricting solar energy systems on residential properties applicable to historic districts but authorizes local jurisdictions to regulate the location or screening of solar collectors by "requiring the use of plantings or other measures to ensure that the use of solar collectors is not incongruous with the special character of the district" (N.C. Gen. Stat. §160A.400.4(d)). Even under the general prohibition, though, local governments may restrict solar energy systems to the extent that they are visible from the ground and installed on any facade or roof slope that faces common or public-access areas, or installed on a property within the area between the facade of a structure and common or public-access areas (§160A-201(c)). New Mexico prohibits a county or municipality from imposing restrictions on the installation of solar collectors except in a historic district (N.M. Stat. §3-18-32). And Connecticut prohibits a preservation commission from denying an application for a certificate of appropriateness for a renewable energy system unless "the commission finds that the feature cannot be installed without substantially impairing the historic character and appearance of the district." The commission may impose conditions on the issuance of a certificate of appropriateness, including design modifications and limitations on the location of the feature, provided that the effectiveness of the system is not significantly impaired (Conn. Gen. Stat. § 7-147f).

Local Actions Addressing Solar and Historic Preservation

Some municipalities have taken steps to explicitly address solar and historic preservation in their codes and ordinances. Howard County, Maryland (2009), and Alexandria, Virginia (1993), have adopted guidelines for solar panels in historic districts. Bayfield, Wisconsin, developed a document that details best practices in sustainability from a historic preservation perspective (NTHP 2012). In Texas, the City of Austin's zoning ordinance allows for a preservation plan in historic districts to incorporate sustainability measures such as solar technologies and other energy generation and efficiency mechanisms (§25-2-356, §25-2-531).

Two other communities, Montgomery County, Maryland,

and Portland, Oregon, have recently adopted guidelines and recommendations that address solar and historic preservation. Montgomery County amended its General Rehabilitation Design Guidelines in 2011 to specifically address solar panels. Portland revamped its zoning code to eliminate discretionary review of all new solar installations that comply with community design standards (Chap. 33.218). The community design standards make it easier for property owners to know what will be approved and what level of review a property owner can expect based on the location of the property.

However, these municipalities are the exception rather than the rule. Many jurisdictions fail to address solar in any capacity in their comprehensive plans or zoning ordinances, let alone specifically in their design guidelines for historic districts and properties. This ambiguity can create challenges on many levels. Residents are unclear about where they can install solar energy systems or whether these systems are even allowed, and persons serving on review boards and commissions may have trouble making consistent determinations. In some instances the uncertainty can discourage the installation of solar systems, which may work against solar energy goals. In other instances property owners may install systems without approval (knowingly or unknowingly) and officials can only react, issuing penalties and requiring “after the fact” applications for certificates of approval. If a community attempts to force a property owner to remove an installation, it opens itself up to a lawsuit if the property owner decides to appeal the decision or attempts to recoup installation costs.

Some communities may allow solar in historic districts or on historic properties, but their ordinances impose so many obstacles and restrictions on permit approvals that installing solar energy systems becomes unfeasible or impossible for applicants. Many times these restrictions were crafted to address other issues, such as alterations to historic roof lines or installation of satellite dishes, or are simply out of date. Some communities experiencing a sharp increase in the number of applications for solar systems have hastily developed historic preservation guidelines without identifying and engaging the appropriate stakeholders. Finally, some communities explicitly prohibit owners of historic properties from taking advantage of clear standards for the installation of solar energy systems in nonhistoric areas.

Solar installations on historic buildings and in historic districts are often considered on a case-by-case basis, leaving municipal



A solar panel system was installed on the rear elevation of this historic property in the Heritage Hill Historic District of Grand Rapids, Michigan. By locating the system in the rear of the property, the views from the public right-of-way remain preserved. (Image courtesy of Kimberly Kooles, N.C. Solar Center.)

review boards, commissions, and councils to resolve solar and historic preservation conflicts through their discretionary powers. Adding an additional level of ambiguity is the lack of any case law on the subject that could potentially provide local jurisdictions clear guidance on the subject matter.

Can Solar Panels and Historic Preservation Get Along?

The variety of regulations, guidelines, and policies that have been developed pertaining to solar and historic preservation indicate that there is no uniform or concrete approach to determining whether a solar installation is appropriate on a historic resource. Most often disagreements arise not around the installation itself, but how the installation is done. Most agree that installation of solar panels is not acceptable when the installation involves removal of historic roofing materials, when the historic roof configuration has to be removed or altered to add solar panels, or when the installation procedure would cause irreversible changes to historic features. There are, however, multiple situations when installation of solar panels on a historic resource is generally viewed as acceptable. Panels are generally viewed as acceptable when they are

- installed on a building with a flat roof, at a low profile, and are not visible from the street;

Resources: Solar and Historic Preservation

Some widely agreed upon guidelines have been developed to illustrate when a solar installation may be appropriate and when it is not. These include

- “Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings” (U.S. Department of the Interior, National Park Service, Office of Technical Services, 2011; www.nps.gov/tps/standards/rehabilitation/sustainability-guidelines.pdf). These guidelines include a section dedicated to solar technology.
- “Design Guidelines for Solar Installations” (National Trust for Historic Preservation, n.d.; www.preservationnation.org/information-center/sustainable-communities/sustainability/solar-panels/design-guidelines-for-solar.html). This document provides a foundation for the adoption of local guidelines related to solar energy installations.
- “Sample Guidelines for Solar Panels in Locally Designated Historic Properties” (Kimberly Kooles, National Alliance of Preservation Commissions, 2009; www.preservationnation.org/information-center/sustainable-communities/sustainability/solar-panels/additional-resources/NAPC-Solar-Panel-Guidelines.pdf). This resource is intended to serve as a starting point for local preservation commissions developing their own guidelines for solar panels.
- “Implementing Solar PV Projects on Historic Buildings and in Historic Districts” (A. Kandt et al., National Renewable Energy Laboratory, 2011; www.nrel.gov/docs/fy11osti/51297.pdf). This technical report focuses on the implementation of photovoltaic (PV) systems on historic properties.
- “Developing Sustainability Design Guidelines for Historic Districts” (Nore Winter, National Trust for Historic Preservation, 2011). Communities can refer to these guidelines when developing or updating guidelines for solar installations in historic districts. Although this resource discusses sustainability guidelines in general, it does include specifics on renewable energy.
- installed on secondary facades and shielded from view from a primary façade (below and behind parapet walls and dormers or on rear-facing roofs);
- ground-mounted on nonhistorically significant landscapes and inconspicuously located on historic sites;
- located on new buildings on historic sites or new additions to historic buildings; or
- located complementary to the surrounding features of the historic resource (Kooles et al. 2012).

The following recommendations will assist planners in ensuring that solar and historic preservation can successfully coexist in their communities:

- Advocate for development of state solar-access laws (for states that do not have them) and changes to state solar-access laws (where they exist) to specifically address historic preservation.
- Identify historic preservation as a reasonable restriction in state solar-access laws and craft clear language that indicates when an installation is not acceptable.
- Revise, develop, and adopt local preservation guidelines or ordinances (tailored to the community) that address renewable energy and sustainable technology.
- Address historic preservation and solar jointly during the planning process. This includes discussing priorities during visioning and goal-setting exercises, addressing potential conflicts during the development of goals, policies, objectives, and action items, and identifying unintended barriers in existing guidelines and regulations.
- Perform an audit of the community’s historic preservation guidelines and regulations to determine unnecessary or overly stringent barriers to solar installations.
- Ensure that the appropriate stakeholders, both historic preservationists and solar experts, are involved in the development of solar access guidelines and development regulations. Also ensure that they serve as members of local solar-advisory committees.
- Designate a board to make decisions regarding solar and historic structures. Ensure that the board has decision-making authority and representation from appropriate stakeholders.
- Design a review system and criteria to review and evaluate projects after installation on historic properties.

Consider updates to guidelines and ordinances when appropriate.

- Educate and increase citizen awareness of the benefits of both solar and historic preservation and best practices of sensible planning to avoid future conflicts.

Solar and Trees

Maintaining and enhancing the tree canopy is another common sustainability goal. Trees and solar energy systems also share similarities. Both require access to the sun, and both help reduce carbon emissions and curb pollution. When a tree's shade impacts the efficiency of a solar system, however, trees and solar become unlikely adversaries. The conflict has sparked debate about which is the higher local priority.

As states make commitments to promote alternative energy sources and reduce energy consumption, they have simultaneously made commitments to increase solar capacity. The California Solar Initiative (CSI), for example, has set a goal to reach 1,940 MW of installed solar capacity by the end of 2016 (California Public Utilities Commission 2012). These ambitious goals, coupled with the increasing affordability of solar energy systems and the adoption of financial incentives and financing programs, make an already contentious issue likely to become even more so as more people seek to install solar panels on their homes and businesses.

The Dilemma

Urban foresters, other allied professionals, and residents can list many reasons to maintain a mature and healthy tree canopy. Trees provide a wide range of environmental, social, and economic benefits including improving air quality, reducing stress, and increasing property values. Despite these benefits, urban tree coverage is on the decline across the U.S. In fact, according to a 2012 study published in *Urban Forestry & Urban Greening*, 17 of the 20 cities analyzed had statistically significant declines in tree cover (Nowak 2012). Solar energy systems could represent another potential threat to an already increasingly threatened resource.

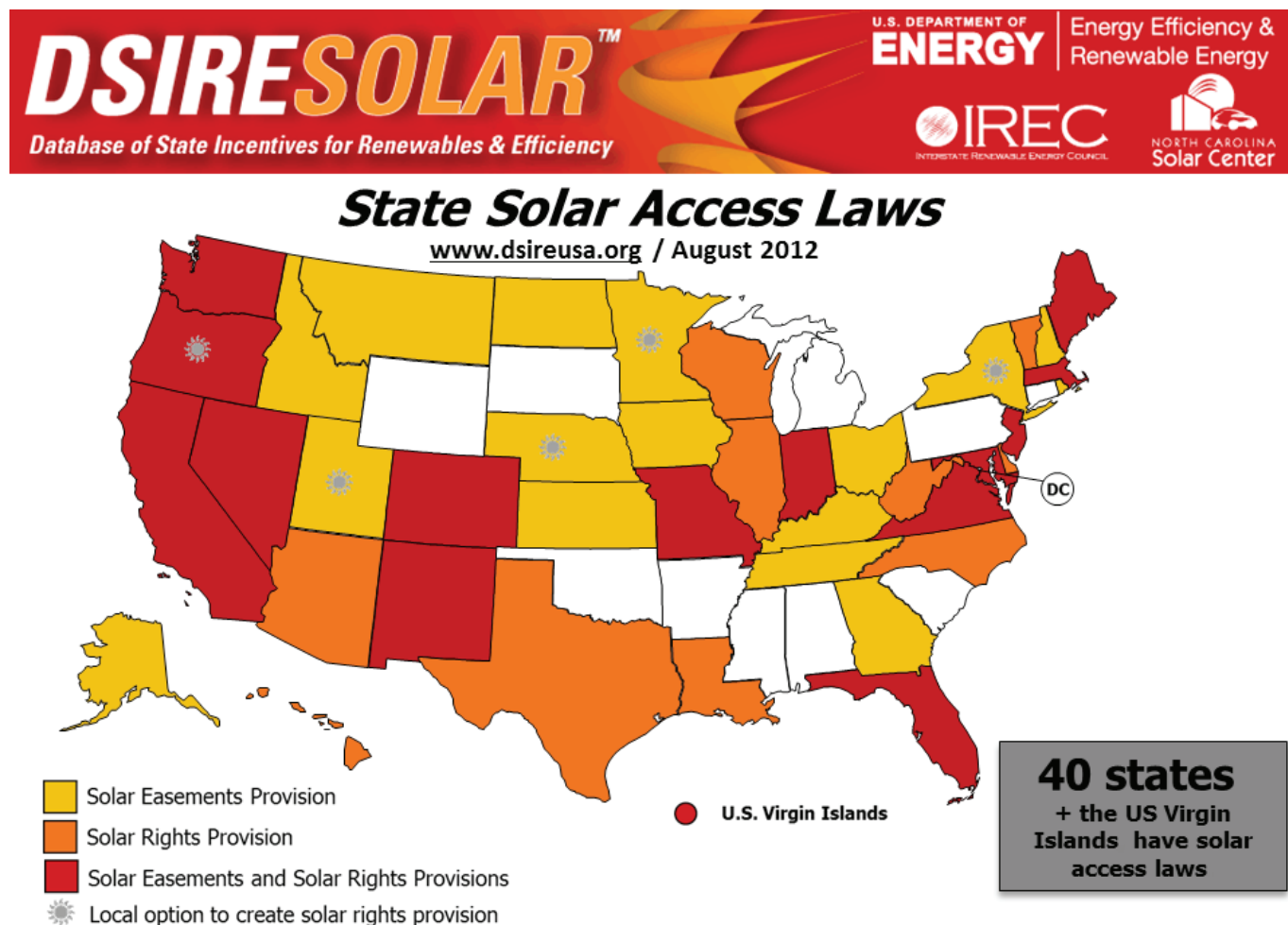
In order to protect urban forests, advocates have implemented tree-planting and protection campaigns and have developed tools, such as the U.S. Forest Service's i-Tree software suite (www.itreetools.org), to interpret canopy change. Despite these efforts, tree canopy has continued to decline. Solar energy systems contribute to this concern. First, some states require the removal



A redwood tree received a "poodle cut" to avoid shading the solar collector on the neighboring property. (Image courtesy of Jim Wilson, The New York Times.)

of trees that grow to interfere with solar energy systems, even if the trees were planted prior to the installation of the system. Additionally, many of the alternatives to tree removal recommended by solar proponents, including trimming, pruning, and height restrictions, can reduce the benefits the tree canopy can provide. Finally, areas with high concentrations of solar energy systems may effectively become buffers against future tree plantings. Tree advocates worry about the implications of today's solar installations on the future of the urban forest.

Tree advocates also believe that many questions related to solar installations remain unanswered. For example, while solar advocates have offered solutions for addressing solar during infill development and new construction, impacts to mature trees in older, established neighborhoods have not been addressed. Houses in older neighborhoods are often constructed on smaller lots, which limits the options for tree placement on the lot. Ad-



Solar access laws vary from state to state. (Image courtesy of Database of State Incentives for Renewables & Efficiency [DSIRE].)

ditionally, trees in these neighborhoods have already reached maturity, so few measures can be taken to reduce conflict.

Solar Legislation Relating to Trees

Many communities are taking steps to remove regulatory barriers to solar installation. But even if regulations allow property owners to install solar systems on their properties, shading may limit the efficiency of those systems to a degree that makes their installations economically infeasible.

In the United States, there is no nationwide “right to light,” meaning there is no statute, inherent common law basis, or policy at the federal level addressing or affirming solar rights (Staley 2012a). This property-rights issue has been left to the states to resolve, with the result being a hodgepodge of stat-

utes, ordinances, and case law as states take up the issue of solar access rights. Adding the competing interests of tree owners to the mix muddles the issue even further. What happens if access to the sunlight necessary to operate the solar system requires trimming or removal of trees on the individual’s property or a neighboring property?

Most states have adopted some type of legislation to ensure solar access rights, but some states have remained silent on the issue. Additionally, legislation varies from state to state and in some states, such as California, legislation has been significantly amended as a result of decisions rendered by state courts. If the rules governing adequate access to sunlight are not predictable and easy to apply, people may be reluctant to invest in solar energy systems, and conflicts will arise that could have easily

been avoided. Does a property owner have a “right to light,” and should this right be offered without conditions or limitations?

The following are the types of existing legislation states have adopted related to solar in attempts to guarantee reasonable solar access rights in the face of competing interests, such as urban tree growth:

- **Prohibition of Conditions, Covenants, and Restrictions:** These laws prevent homeowners’ associations from adopting or enforcing covenants, conditions, and restrictions that bar or place undue burdens on installation of solar energy systems.
- **Solar Easements:** These laws typically allow a landowner to enter into an agreement with an adjacent landowner to ensure that sunlight reaches the property.
- **Local Zoning Authority to Adopt Solar Access Regulations:** These laws permit local zoning authorities to adopt rules and regulations in the permitting and zoning process that preserve solar access, including consideration for shading from other structures or vegetation.
- **Solar Shading:** These laws ensure that the performance of a solar energy device will not be compromised by shade from vegetation on adjoining properties (Kettles 2008).

As of August 2012, 40 states have adopted one or more types of solar access laws (DSIRE 2012). Some of the states with more notable legislation include Wisconsin and California.

Wisconsin is one of the most protective states regarding a resident’s right to install and operate a solar energy system, with laws that limit zoning and private land use restrictions on solar and guarantee system owners’ rights to unobstructed access to solar resources. Its solar access laws declare vegetation that interferes with solar panels to be a private nuisance, even if the trees predate the solar installation (DSIRE Solar and Wind Rights 2012).

California’s solar access law was scaled back in scope after public outcry over its broad reach. Under the original Solar Shade Control Act enacted in 1978, shade cast by a property owner’s trees on more than 10 percent of a neighboring solar panel system between the hours of 10 a.m. and 2 p.m. was considered a prosecutable public nuisance. After an unpopular prosecution that required residents to severely cut back redwood trees planted prior to the installation of their neigh-

bor’s solar panel system, the act was amended in an attempt to balance the planting of trees and shrubs for shade and visual appeal with increased use of solar energy devices. The 2008 amendment exempts all trees and shrubs planted prior to the time of a solar collector’s installation (Anders et al. 2010).

Local Actions Addressing Solar and Trees

The patchwork of statutes, ordinances, and case law at the state level is reflected at the local level. Though many communities have developed urban forest management or green infrastructure plans, tree protection regulations, tree pruning guides, street tree standards, or tree ordinances to protect their urban forests, only a few address both trees and solar installations. These regulations vary greatly; some are more encouraging of solar development whereas others favor protecting the urban forest. Communities who have added these solar regulations to their municipal codes include Ashland, Oregon (§18.70); Madison, Wisconsin (§16.23(8)(a)); Sunrise, Florida (§16-130, §16-172, §16-277); and Greenwich, New Jersey (Ordinance No. 17-2011).

Several types of disputes related to trees and solar energy systems are common at the local level. One relates to property owners who would like to cut down trees on their properties to install solar systems but are prohibited from or charged fees for doing so by local regulations. Another arises when a neighbor of a property with a solar energy system already in place plants trees that are likely to grow to block solar access. A third type occurs when existing trees grow to block a new solar installation on a neighboring property: Do the trees prevail because they were there first, or do they effectively become a nuisance when they grow into the solar access zone?

A number of local disputes over the past few years provides evidence of the growing conflict between solar and trees. City commissioners in Winter Springs, Florida, changed a tree protection policy to allow tree removal for solar devices after a property owner who installed a solar system couldn’t fully utilize the system because it was shaded by trees on the property. In Des Moines, Iowa, the Parks and Recreation Board reluctantly voted to cut down 11 mature trees on the town property to accommodate installation of a solar energy system during renovations of the city’s library. Several board members noted that they might not have sought the grant that funded the solar energy system installation if they had known it would have required removal of the trees (Alliance for Community Trees 2010). A dispute in California ended up in district court: In

2008 a Sunnyvale couple was ordered to cut twelve-year-old redwood trees on their property so as not to interfere with their neighbor's new solar panels (Barringer 2008). As noted above, community outcry spurred by this case contributed to the decision to amend California's Solar Shade Control Act.

These examples show that to date, when solar energy systems and trees conflict, the trees often lose, even if they were planted before the solar energy systems were installed.

Can Trees and Solar Co-Exist?

The variety of regulations, guidelines, and policies that exist pertaining to solar and trees reveal the challenge communities face in trying to prioritize these two valuable resources. Which is greener? Which is better for the environment? Does it matter which was there first, how many hours the installation is shaded, or how much of the installation is shaded?

Instead of trying to answer questions that result in an outcome where one resource "wins" out over the other, communities should refocus their efforts on taking measures to ensure these interests can successfully coexist. There are a number of recommendations that can assist planners in these efforts:

- Ensure that the right tree is planted in the right place and for the right reason (Staley 2012b). Factors such as how tall a tree will grow to at maturity, how much shade it will likely cast, and in what direction that shade will fall will help determine the optimum placement for minimizing the chance of conflict at a later date. Involve both urban foresters and solar experts in the site plan review process as well as the development of design standards. Ample opportunity exists for making more informed decisions during infill or new construction projects.
- Address urban forests and solar collection together during the planning process. Explicitly acknowledging in the comprehensive plan that trees can be in conflict with solar collection and that efforts must be made to ensure their coexistence provides a basis for addressing this issue in ordinances, development review, and code enforcement (Staley 2012b).
- Invite and encourage urban foresters to become members of local solar advisory committees and councils.
- Consider creating and adopting overlay zoning for "solar access zones" in suitable areas that specifically acknowledges the need to consider plant size to maintain clearance for solar collection (Staley 2012b).

- Amend the subdivision ordinance to require neighborhoods and developments to be laid out in a manner that minimizes conflict between solar and trees. Consider designing future subdivisions as solar subdivisions that have streets, buildings, and roofs oriented to receive sunlight.
- Replace removed trees where possible, and track tree removals to ensure there is no net loss in trees.
- Educate citizens as to the benefits of both solar and trees, and increase their awareness of best practices of sensible planning to avoid shading and ensure that solar and trees can coexist.
- In instances where a solar installation would result in the removal of mature trees, encourage or require other energy conservation strategies first. Additionally, encourage or require homeowners to prune trees before permitting removal.
- Actively identify the best places to locate solar in a community, and direct installations to these areas. These include already developed areas and areas where existing infrastructure is already in place, such as parking lots, roads, brownfield and greyfield sites, landfills, and big-box stores. These areas should be selected over areas that are heavily forested or other areas where conflicts are likely.
- Incorporate planning software and tools, like i-Tree and solar maps, that provide relevant data on tree growth, urban forest benefits, and shading into the project review process (other freeware tools include Google Earth, Sketchup, and Paint.NET). Train planning staff or hire an arborist to conduct these analyses during the review process.
- Stay on top of solar technology. Encourage the development of smaller, more efficient systems, and encourage or require the selection of systems that are least impacted by shading (when shading is unavoidable).

Solar and Urban Redevelopment

A potential competing interest with solar energy systems that remains largely overlooked is urban redevelopment. Many communities seek to concentrate development in targeted areas like downtowns or transit-oriented developments (TODs) in an attempt to reduce vehicle miles traveled (VMT), provide more efficient services, and to provide transportation and housing alternatives. This often means changes to regulations, including height restrictions, to accommodate future growth. At the same time, these are the same areas where communities are often

encouraging solar projects. Just as shade cast by a tree over a solar energy system can reduce the installation's efficiency, so can the shadow of a tall building. As targeted areas redevelop, the possibility for solar conflicts rises.

As discussed above, many states have adopted legislation in attempts to ensure that existing solar installations have access to an adequate amount of sunlight. Even the states with notable "right to light" legislation have not specifically addressed the issue of solar and urban redevelopment, however. Solar maps, developed by some communities to help property owners determine the solar potential of their properties, can account for shade from existing neighboring buildings, but cannot predict impacts that result from redevelopment that has not occurred.

To date there have been little to no documented disputes in the U.S. Besides a handful of property owners attempting to block development applications at local board meetings, the issue has been nonexistent. But the potential for conflicts in the future is high. If the solar versus trees debate is any indication, it is likely that most communities have not thought about the impact that solar regulations could have on their urban areas or their redevelopment goals. If a community is unable to build up, it could be limiting its ability to meet future population demand and combat sprawl. It could also be reducing its ability to provide the density necessary to support its public transportation system. Developers may also argue that without additional square footage the costs of redevelopment in these areas outweigh the investment.

Additionally, it is unclear what would happen if a property owner built a building or addition that impacted an existing solar system. Removing a building (or floors of a building) in a densely developed area will be much more difficult and costly than removing trees and other vegetation. Some communities with strong solar access laws may impose high costs to mitigate impacts. Others may not have guidelines or regulations in place for compensation. Finally, many areas targeted for redevelopment are located immediately adjacent to residential neighborhoods of much lower density where the likelihood of shading is relatively high. This gives another piece of ammunition to neighborhood advocates looking to prevent higher-density developments in proximity to their neighborhood (Feldman 2009).

These risks and uncertainties could discourage, delay, or prevent development activity or solar installations in areas targeted for increased future redevelopment. Communities need to think through the potential tradeoffs and develop strategies to

Resources: Solar and Trees

A number of published works have examined local approaches to solar access generally and conflicts with trees in particular, including the following:

- "A Comprehensive Review of Solar Access Law in the United States: Suggested Standards for a Model Statute and Ordinance" (Colleen Kettles, Solar America Board for Codes and Standards, 2008; www.solarabcs.org/about/publications/reports/solar-access/pdfs/Solaraccess-full.pdf). This publication (pages 10–11) identifies the recommended elements of solar access legislation.
- "Trees and Solar Power Coexisting in an Urban Forest Near You" (Dan Staley, 2012; <http://danstaley.net/Staley%202012%20Trees%20And%20Solar%20Power%20Coexisting%20in%20an%20Urban%20Forest%20Near%20You%200012%20WREF%20Solar%202012%20FINAL.pdf>). This paper describes several innovative policies to facilitate the successful coexistence of urban trees and rooftop solar energy collection.
- "California's Solar Rights Act: A Review of the Statutes and Relevant Cases" (Scott Anders et al., University of San Diego School of Law Energy Policy Initiatives Center, 2010; www.sandiego.edu/epic/research_reports/documents/100426_SolarRightsAct_FINAL.pdf). This resource discusses California's solar access legislation and the current exceptions from its provisions.
- "My Tree Versus Your Solar Collector or Your Well Versus My Septic System? – Exploring Responses to Beneficial but Conflicting Neighboring uses of Land" (R. Lisle Baker, Boston College Environmental Affairs Law Review, 2012; <http://lawdigitalcommons.bc.edu/ealr/vol37/iss1/2/>). This law journal article reviews legal cases illustrating historic solar tree conflicts in the U.S.
- "A Western Street Tree Management Symposium Presentation: Integration of the California Solar Act with Urban Forestry" (Dave Dokter, City of Palo Alto Planning Department, 2010; www.streettreeseминаr.com/ppt/Dokter.pdf). This presentation looks at shading studies and proactive measures to plan buildings and craft ordinances that harmonize urban forestry and solar goals.

address conflicts before they arise. This may involve determining prime areas for both solar installations and redevelopment and identifying them for the public through the use of tools like overlay districts. When these areas overlap, communities could develop interface (or zone of transition) design guidelines or standards that specifically address the impacts of massing on existing solar installations. Additionally, communities could modify solar-access zone provisions to address redevelopment in addition to trees. It should be noted that these recommendations will be most effective in areas slated for large-scale redevelopment. Situations of lot-by-lot redevelopment will be much trickier. With no solar access laws in the U.S. specifically addressing this issue, communities should also consider looking internationally to see how other countries' solar access laws for urban areas are evolving.

Conclusion

While promoting the installation of solar energy systems, communities are increasing their potential for conflict with other community interests including historic preservation and tree protection. To date, few communities are considering the effects the decisions made in support of solar can have on these other community interests. Planners are uniquely positioned to spearhead efforts to determine mutually beneficial solutions to ensure these interests can successfully coexist in the future. They can lead tough community discussions, bring the appropriate stakeholders to the table, develop relevant guidelines and regulations, and educate residents on all of the angles of an identified interest. Instead of having to choose between competing interests, communities and planners should undertake these efforts to help them obtain the truly sustainable futures they desire.

■ This solar briefing paper was written by Erin Musiol, AICP, Senior Program Development and Research Associate at the American Planning Association, with Kimberly Kooles, Policy Analyst at N.C. Solar Center/DSIRE, Michael Allen, Attorney at Energy Law Wisconsin, and Dan Staley, Urban Planner at DCS Consulting Services.

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Cover: A solar panel system was installed on the rear elevation of this historic property in the Heritage Hill Historic District of Grand Rapids, Michigan. By locating the system in the rear of the property, the views from the public right-of-way remain preserved. (*Image courtesy of Kimberly Kooles, N.C. Solar Center.*)

Date: May 18, 2017

Agenda Item No: WORK SESSION ITEMS (D)

I. SUBJECT

Discuss regulations related to the use of shipping containers

II. SUMMARY

- The city has no regulations specifically regulating shipping containers.
- Current city staff had been instructed when they were hired that shipping containers were not allowed.
- There are several properties within the city that are using shipping containers.
- As staff prepared to enforce what we thought were the city's regulations, we searched the code for the specific section prohibiting shipping containers but found that, in fact, there are no regulations specific to shipping containers (note: the city does have regulations for outdoor storage, but shipping containers weren't contemplated when those regulations were written).
- Many cities do allow shipping containers to be used, either on a temporary or permanent basis, and these containers can be particularly useful for preventing theft of supplies and equipment during construction.
- This report contains a summary of how shipping containers are currently being used within the city, concerns related to the use of these containers, and a description of regulations that could be suitable for Kennedale.

CURRENT STATUS

The city currently does not explicitly regulate shipping containers. They could be regulated through the outdoor storage regulations, but nothing in the code specifically mentions these kinds of facilities. They are used on several properties, including the following sites.

318 W Kennedale Pkwy	(cabinet shop)
408 W Kennedale Pkwy	(digital printing company)
516 W Kennedale Pkwy	(electrical contractor)
780 W Kennedale Pkwy	pipeline construction company)
1039 Bowman Springs Rd	(golf driving range)
630 Tower Dr	(glass company)

Shipping containers are typically either 8.5 feet or 9.5 feet in height and vary in length. Common lengths are 20 feet and 40 feet, but lengths of 45 feet, 48 feet, and 53 feet are also available.

HOW OTHER CITIES REGULATE THEM

Other cities tend to have different regulations based on whether the containers are considered permanent or temporary. Some allow them to be used on a permanent basis with a permit or other controls. It is common to prohibit shipping containers from being used for human occupation unless the container is greatly modified to meet typical building standards for humans (for example, having multiple points of ingress/egress, building properly insulated, having a permanent foundation, etc.).

STAFF REVIEW

Staff considered the following concerns.

1. Some users may attempt to occupy the containers and use them for offices, work spaces, or residences.
2. Shipping containers could violate lot coverage requirements, going against the intent of lot coverage ordinances of maintaining a certain level of open space per lot.
3. Neighborhood/area character – shipping containers as-is do not meet the city's development standards for structures. They are not structures, but they are large enough to affect the appearance and character of a neighborhood if not properly regulated, in the same way that accessory buildings can affect neighborhood character.
4. Some users may intend to use shipping containers as a means of dodging the city's accessory building requirements (e.g., masonry requirements, permitting, etc.)
5. Shipping containers are generally intended to be used for temporary purposes, but some users may want to keep shipping containers on site on a long-term or permanent basis.
6. Shipping containers do not require a permit, so the city may be limited in its ability to control where the containers are used, how many are located on one site, placement of the containers (e.g., whether they're within easements, etc.), and so forth.

Based on the city's long-term plans, typical development policies, and how these containers are currently being used, staff recommends considering the following regulations.

- Continue to allow shipping containers to be used on a temporary basis for construction sites that have an active building permit (typically used for storing materials and equipment for a construction project). Staff would add a question on the building permit application asking whether the general contractor intended to use a shipping container and notifying builders that the container must be removed before a final inspection will be made. A height of 9.5 feet could be permitted for these containers.
- Allow shipping containers to be used on a permanent basis as part of any land use that allows outdoor storage, such as: "General Offices & Services – Construction and Building Services, outdoor storage," which is permitted in C-2 and Industrial zoning districts; and "Outdoor storage, commercial and industrial," which is permitted with a special exception in Industrial zoning districts. Containers would then be subject to the regulations affecting those land uses, which include height, screening, and location regulations.

- In addition, the city should consider establishing the following additional regulations for permanent shipping containers.
 - Include the square footage of the shipping container(s) in the calculation of impervious square footage for any buildings, and the total impervious square footage including the shipping container(s) should not exceed the amount permitted for the relevant zoning district. For example, the C-2 zoning district has a maximum impervious square footage of 60%. In this case, any buildings on the site plus the shipping containers could not exceed 60% of the lot.
 - AND/ OR Set a maximum number allowed per acre – this number should be not so stringent as to prohibit the amount of containers needed for a use but enough to prevent overcrowding and excessive lot coverage with containers.
 - Require a permit per shipping container so that the city can track how many are being used and ensure the users are following the outdoor storage regulations.
 - Prohibit the use of these containers within the Commercial Corridor Overlay district (this is an area within 300 feet of the centerline of Kennedale Pkwy as well as the frontage road for I-20/820).
- Prohibit water, waste water, or electrical connections to the shipping containers. This will help prevent the containers being used for human occupancy.

STAFF RECOMMENDATION

In order to set a clear understanding of where and how shipping containers are permitted, staff recommends adopting regulations specific to the uses of these containers as described above. If the Commission is comfortable with the types of regulations described in this report, staff will plan to bring an ordinance to the June regular meeting for the Commission's consideration.

STAFF REPORT TO THE PLANNING & ZONING COMMISSION

Date: May 18, 2017

Agenda Item No: REGULAR ITEMS (E)

I. SUBJECT

Discuss concept of planned development district for infill parcels

II. SUMMARY

During last month's meeting, staff asked the Commission whether it would be interested in considering establishing regulations for infill development. These regulations would apply only to those properties that are hard to develop due to their shape, size, or other features specific to the property itself.

An example of an infill parcel is shown on the attached map. The highlighted property is a little smaller than five acres in size. This may seem like a good size for developing into a small single-family neighborhood, but after taking out the required minimum right-of-way (50 feet) and the amount of space that would be required for a cul-de-sac, the property would have limited space for creating lots. As you'll see on the map, the adjacent properties are already developed, so combining properties to get a larger tract would be difficult.

While these districts could serve as a buffer between less intense residential neighborhoods and more intensive uses, that would not be their intended purpose. Rather, the purpose would be to allow development of awkward-shaped or hard-to-develop parcels. Thus, regulations should be sure to ensure that the permitted developments are compatible with existing adjacent developments. Infill development should also be safe in terms of fire and police access and traffic flow.

BACKGROUND

The Commission visited this concept in 2009, but as more pressing issues rose to the forefront of discussions, including updating the comprehensive land use plan, the topic was put aside and never revisited. At that time, the Commission had considered the idea of a planned development district, and staff had recommended limiting these districts to properties of 10 acres or smaller. Staff still recommends a limit to the size of a parcel that can be used for infill development.

STAFF REVIEW

Typically, a developer will propose standards for a planned development district. However, the city can require that certain elements be included in any proposed district. Staff recommends considering the following issues and recommendations.

Master plan – The applicant for an infill planned development district should be required to submit a master plan for the property that includes all lot layouts and dimensions, roadways, preliminary storm water layout (not detailed engineering; just enough to show that the developer has reserved space for any required detention facilities). The master plan should include a statement with supporting information describing how the proposed development will minimize the impact of increased densities or smaller lot sizes. For example, the developer may propose adding buffers, landscape features, or other features to ensure privacy and compatibility.

Size – The districts should be limited to those properties less than 10 acres in size but larger than 1 acre. Properties of 1 acre or smaller usually can simply be subdivided into a few lots.

Location – The properties included within an infill district should be bounded on one or more sides by a property that has already been developed, limiting the possibility of a developer combining multiple parcels to create a lot that is easier to use.

Use restrictions – The properties should be limited to residential use, possibly single family detached and single family attached; the Commission could also consider permitting multi-family use, but in that case, for properties adjacent to a single-family residential zoning district, staff recommends restricting the development so that each dwelling unit appears as and is designed as a single-family attached use [e.g., townhomes built on individual platted lots might be permitted, but a developer could use to rent the townhomes instead of selling them]. In this way, the density permitted would be more compatible with the adjacent single-family districts.

Building restrictions – The buildings should be limited to the same height as other single family residential zoning districts (30 feet for R-3 districts, 40 feet for R-2 districts, and 50 feet for R-1 districts).

Lot coverage regulations may need to be less restrictive than in single-family zoning districts, but staff recommends requiring a minimum amount of contiguous, accessible open space dedicated in each development to make up for the lack of open space per lot. In addition, the city might want to allow for lot area averaging in these districts. This would establish a minimum lot size for the district but would allow some lots to be smaller than that size (within limits) as long as other lots were larger, so that the average lot size meets the minimum lot size for the district.

In general, setbacks may need to be less restrictive (smaller) than in non-infill districts; however, staff would recommend maintaining a distance of at least 20 feet from adjacent single-family residential zoning districts.

Other design elements – The Commission may want to consider requiring some or all of the following elements.

- Landscaped common areas;
- landscaped and irrigated street medians;
- garages placed behind the front building façade (or prohibit front-entry garages for lots that are deep enough to accommodate rear entry);
- establishment of a Homeowners Association;
- stained concrete driveways or other durable, decorative driveway features;
- decorative wood garage doors;
- decorative street lights;

- decorative mail boxes;
- stamped or decorative concrete street features;
- Use of appropriately scaled water or architectural features exceeding those otherwise required including but not limited to:
 - fountains or other decorative water features;
 - landscaped retention ponds with ornamental fence enclosure;
 - waterways with landscaped banks;
 - neighborhood pools or club houses;
 - gazebo or neighborhood pavilion;
 - statues or other public art features.

The city might consider allowing private streets as long as they have public access at all times (public access easement would be required and no gates would be permitted). This would allow a developer to propose somewhat narrower street widths than is usually permitted.

STAFF RECOMMENDATION

Staff proposes to prepare a draft ordinance for discussion at an upcoming work session, based on input received from the Commission. At that point, staff recommends placing a discussion of the ordinance on several work session agendas in order to allow the public more time to notice this item on Planning & Zoning Commission agendas and provide comments to staff (which could then be forwarded to the Commission).



STAFF REPORT TO THE BOARD OF DIRECTORS

Date: May 18, 2017

Agenda Item No: MINUTES APPROVAL - A.

I. Subject:

Review and consider approval of minutes from the February 2017 Planning & Zoning Commission extra work session

II. Originated by:

Rachel Roberts, City Planner

III. Summary:

The minutes from the February 2017 extra work session are attached to this message for your consideration.

IV. Notification:

V. Fiscal Impact Summary:

VI. Legal Impact:

VII. Recommendation:

Approve

VIII. Alternative Actions:

IX. Attachments:

1.	02.13.2017 PZ work session minutes	02.13.2017 PZ Work Session minutes.pdf
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KENNEDALE PLANNING & ZONING COMMISSION

MINUTES

February 13, 2017

CITY HALL COUNCIL CHAMBERS, 405 MUNICIPAL DRIVE

WORK SESSION - 6:00 PM

I. CALL TO ORDER

Chairman Harvey called the meeting to order at 6:05 P.M.

II. ROLL CALL

PLACE	COMMISSIONER	PRESENT	ABSENT
1	Carolyn Williamson	X	
2	Chris Pugh	X	
3	Stephen Brim	X	
4	Thomas Pirtle, Vice-chair	X	
5	Harry Browne	X	
6	Ernest Harvey, Chair	X	
7	Patrick Filson	X	
8	Horace Young, Alternate	X	
9	Greg Adams, Alternate	X	

A quorum was present. Stephen Brim arrived at 6:12 P.M. Also present were Rachel Roberts, community development director, and Deepak Sulakhe and Jason Lain from OM Housing.

III. WORK SESSION

A. Discuss concept plan for OM Housing's proposed project at 137 Kennedale Pkwy

Ms. Roberts said OM Housing had made some changes to the proposed concept plan based on her comments to them about the Urban Village standards. She then turned over the discussion to the representatives from OM Housing, and Mr. Sulakhe described the concept plan and the recent changes. He said the main change is that the apartment buildings now are designed to have access on a proposed public road. He said the buildings will have a contemporary urban theme, and OM Housing will work with the city on the concept.

The Commission discussed the balance of the proposed land uses, the creek running through the site and topography, traffic safety concerns due to four intersections being located in close proximity if the project were approved, the possible objection by residents to density, phasing of the construction, the financing tools and ideas behind the IRS tax-credit housing program, and the proposed timeline. Mr. Brim suggested finding a way to resolve the intersection problem, since in that case the development would help solve an existing problem.

XI. ADJOURNMENT

Mr. Pirtle made a motion to adjourn. The motion was seconded by Mr. Young, and the motion passed unanimously. The meeting adjourned at 7:52 P.M.

ATTEST:

Ernest Harvey, Chairman

Rachel Roberts, Community Development Director

Date

Date



STAFF REPORT TO THE BOARD OF DIRECTORS

Date: May 18, 2017

Agenda Item No: MINUTES APPROVAL - B.

I. Subject:

Consider approval of minutes from the April 2017 Planning & Zoning Commission meeting

II. Originated by:

III. Summary:

IV. Notification:

V. Fiscal Impact Summary:

VI. Legal Impact:

VII. Recommendation:

VIII. Alternative Actions:

IX. Attachments:

1.	04.20.2017 PZ Minutes	04.20.2017 PZ minutes.doc
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KENNEDALE PLANNING & ZONING COMMISSION
MINUTES
COMMISSIONERS - REGULAR MEETING
April 20, 2017
CITY HALL COUNCIL CHAMBERS, 405 MUNICIPAL DRIVE

WORK SESSION - 6:00 PM
REGULAR SESSION - 7:00 PM

I. CALL TO ORDER

Chairman Harvey called the work session to order at 6:00 P.M.

II. ROLL CALL

PLACE	COMMISSIONER	PRESENT	ABSENT
1	Carolyn Williamson	X	
2	Chris Pugh	X	
3	Stephen Brim		X
4	Thomas Pirtle, Vice-chair		X
5	Harry Browne	X	
6	Ernest Harvey, Chair	X	
7	Patrick Filson	X	
8	Horace Young, Alternate	X	
9	Greg Adams, Alternate	X	

A quorum was present. Horace Young & Greg Adams were asked to serve as regular member. Tom Pirtle & Harry Browne arrived approximately eleven minutes after the start of the work session. Mr. Pirtle was not able to stay for the meeting.

Staff present: Rachel Roberts, Development Director, and Alicia Santos, Board Secretary.

III. WORK SESSION

Mr. Harvey moved item D to the top of the work session agenda.

D. Discuss tiny house concept

Maria Thibodeau, 3606 Shelby Dr, presented a *Star-Telegram* article regarding tiny homes. She said she and her husband wanted to start a tiny home community. She said Kennedale is an ideal location, and she is impressed with Kennedale's master plan. She would like to propose a pocket village of twenty tiny homes, where there could be a rural and agricultural surrounding. Mr. Harvey asked what the acreage is of the property they're looking at, and Ms. Thibodeau said it's about six acres. Ms. Williamson asked if people will bring the tiny homes themselves or rent them. Mr. Harvey asked how this is different from manufactured homes. Ms. Thibodeau stated they are manufactured but are built better. Mr. Harvey asked if the people would be transient. Ms. Thibodeau said no, people would stay in the community, and they could have them build porches to make the homes more permanent. Mr. Pugh asked if there would be a property manager to supervise the community. Ms. Thibodeau stated she is hoping to have someone on

location. Mr. Pugh asked how they will get utilities, and Ms. Thibodeau stated most have the connections available. Mr. Young asked if a lease would be required, and Ms. Thibodeau said yes, six months to a year. The Commission asked about proposed location and price ranges of tiny homes. Ms. Thibodeau said she will have a better idea of size and price range after she attends a tiny house workshop later in the month. Mr. Harvey asked about how the city would address this through the code. Ms. Roberts stated the city could possibly set certain standards; require the homes to pass an inspection, etc. Ms. Thibodeau said tiny homes have to be registered by the state. She asked if there was anything that the Commission wants her to bring more information about after she's been to the tiny home workshop. Mr. Harvey said they'd like information about stated standards, longevity, gravel padded sites, and something more defined, as the Commission would need to get what they look like and how they are different from mobile homes.

A. Discuss any item on the regular session agenda

Rachel Roberts described the proposed ordinance making changes regarding masonry requirements and where solar equipment is allowed. She said we already allow solar equipment as an accessory use in residential districts, and staff recommended allowing it in commercial districts, as well. The Commission discussed the proposed ordinance, and Mr. Harvey suggested staff bringing forward an additional ordinance later to make sure solar energy equipment is properly regulated and suggesting using Garland's ordinance as a reference.

The Commission also discussed Ordinance 623 and asked for some clarification about where some types of mobile food vehicles would be permitted, which Ms. Roberts provided. Mr. Harvey suggested the definition for catering truck be amended to make sure it's clear that food trucks would be considered catering trucks if they're catering an event.

B. Discuss current regulations for shipping containers

Ms. Roberts said that the city's code does not have any regulations regarding shipping containers and that there is nothing in the code to prevent them in the city. She asked if this was a concern for the Commission. She said some concerns are that they may be used for housing or office space and that some users might want to have them onsite permanently. She said that some cities do allow them as long they are regulated. Mr. Harvey asked if the city had regulations for storage. Ms. Roberts said we have some but nothing on storage containers. Mr. Browne expressed concern about property values if a container is left on the property too long. Mr. Harvey said there should be some shielding, and there's a concern someone might be buying them to use as accessory units. Mr. Browne suggested having a height restriction and making sure they're properly screened.

C. Discuss current regulations for tree protection

The Commission did not have time to discuss this agenda item at this time.

Mr. Harvey closed the work session at 7:04 P.M.

D. Discuss concepts for infill development regulations

The Commission did not have time to discuss this agenda item.

IV. REGULAR SESSION

V. CALL TO ORDER

Chairman Harvey called the regular session to order at 7:07 P.M.

VI. ROLL CALL

PLACE	COMMISSIONER	PRESENT	ABSENT
1	Carolyn Williamson	X	
2	Chris Pugh	X	
3	Stephen Brim		X
4	Thomas Pirtle, Vice-chair		X
5	Harry Browne	X	
6	Ernest Harvey, Chair	X	
7	Patrick Filson	X	
8	Horace Young, Alternate	X	
9	Greg Adams, Alternate	X	

A quorum was present. Horace Young & Greg Adams continued to serve as regular members.

Staff present: Rachel Roberts, Development Director and Alicia Santos, Board Secretary.

VII. MINUTES APPROVAL

A. Consider approval of minutes from the March 2017 Planning & Zoning Commission meeting. Mr. Adams made a motion to approve, seconded by Ms. Williamson, with the condition that the title be corrected to say "minutes" instead of "agenda." The motion passed with all in favor except Mr. Harvey, who abstained.

VIII. VISITOR/CITIZENS FORUM

No one registered to speak.

IX. REGULAR ITEMS

- A. **CASE # PZ 17-05** to hold a public hearing and consider recommendation for approval of Ordinance 623 regarding an amendment to the Unified Development Code by amending Article 3 Agricultural and Residential Districts, Article 4 Old Town Districts, Article 5 Village Districts, Article 6 Commercial and Industrial District, Article 7 Employment Center Districts, Article 11 Specific Use Requirements, and Article 32 General Definitions, in order to establish regulations for mobile food vendors, including permitted locations.

1. Staff presentation

Ms. Roberts said the ordinance had changed a lot from what the Commission saw last month, on advice from the attorney. She said the attorney had recommended placing the regulations for the mobile food vehicles in the city's existing food regulations in Chapter 10 of the city code, and the changes to the Unified Development Code would only be the changes to the schedules of uses, the definitions, and the note in Article 11 referring readers to the city code.

2. Public hearing

No one registered.

3. Staff response and summary

No response was necessary.

4. Action by the Planning & Zoning Commission

Mr. Harvey closed the public hearing and called for the vote. Mr. Pugh made a motion to approve, seconded by Mr. Browne. The motion passed with all in favor and none opposed and Mr. Harvey abstaining.

- B. **Case # PZ 17-06** to consider approval of a request by Guindolen Anderson for a final plat of the Anderson Addition for approximately 4.991 acres, as described in a deed to Joe Anderson, recorded in Volume 14436, Page 7, DRTC, located at the corner of Jonah and Susan Rds. The plat will create six R-3 single family residential lots.

Ms. Williamson asked if this was a final plat. Mr. Harvey said yes, the area had been annexed and was complying with zoning. Ms. Roberts said it was a large property, and Ms. Anderson was asking to plat it as it had already been developed.

Mr. Harvey called for the vote. Mr. Browne made the motion to approve, seconded by Mr. Adams. The motion passed with all in favor and none opposed and Mr. Harvey abstaining.

- C. **CASE # PZ 17-07** to hold a public hearing and consider a recommendation concerning approval of Ordinance 624 regarding an amendment to the Unified Development Code, as amended, to amend Section 10.7 "Masonry Requirements" of Article 10 General Provisions for all Districts; to amend the schedules of uses to allow solar energy equipment as an accessory use in all commercial, industrial, and employment center zoning districts; and to amend Section 5.2.F "Other Uses" of Article 5 Village Districts to allow solar energy equipment as an accessory use in Village districts.

1. Staff presentation

Ms. Roberts said the masonry requirements in the code do not specify that cement fiber siding is not permitted, but it has always been the city's policy that this kind of material does not count as masonry. She said the ordinance would clarify the city's policy. She also said that solar energy equipment is permitted in residential districts and recommended it be permitted in commercial and industrial districts. Mr. Adams asked why there was opposition to using cement siding as masonry, and Ms. Roberts said the city has always considered masonry as brick, cement, and stucco, but not the fiber cement siding.

2. Public hearing

No one registered for the public hearing.

3. Staff response and summary,

Ms. Roberts recommended approval.

4. Action by the Planning & Zoning Commission

Mr. Harvey called for the vote. Mr. Filson made the motion to approve, seconded by Mr. Pugh. The motion passed with all in favor and none opposed, with Mr. Harvey abstaining.

- D. **CASE # PZ 17-08** to hold a public hearing and consider a recommendation concerning approval of Ordinance 625 to incorporate the Parks Master Plan into the comprehensive land use plan.

1. Staff presentation

Ms. Roberts said the city's charter requires an update to the comprehensive plan every five years, and an update was done last year, so this update was not required. She said it's common for cities to include a parks section in comprehensive plans, and by adding the Parks plan to the comprehensive plan, the city would be able to update the Parks plan, if needed, the next time there was a major update to the comprehensive plan.

2. Public hearing

No one registered for the hearing.

3. Staff response and summary

Ms. Roberts recommended approval.

4. Action by the Planning & Zoning Commission

Mr. Harvey called for the vote. Ms. Williamson made a motion to approve, seconded by Mr. Young. The motion passed with all in favor and none opposed, with Mr. Harvey abstaining.

X. REPORTS/ANNOUNCEMENTS

- A. Staff announcements or reports related to city or regional current events, city or regional news, and updates concerning other boards or City Council action on Commission agenda items

Ms. Roberts announced that there were five seats left for the Bird Workshop on April 22. She said there would be a city cleanup also on April 22, Bark in the Park and Kidfish would be held on May 20, and the Kennedale Historical Society would be hosting a talk on Kennedale Mountain on May 16. She also said the historical society would be officially unveiling the new historical marker by the old school in October.

- B. Commission member announcements or reports related to city or regional current events and/or city or regional news

The Commission members did not have any announcements.

XI. ADJOURNMENT

Mr. Browne made a motion to adjourn, second by Mr. Harvey, and the motion was passed with all in favor. The regular session adjourned at 7:31 P.M.

Mr. Harvey reconvened the work session at that time. Mr. Harvey asked about the concept for infill development. Ms. Roberts said the city had a number of long, narrow properties that were hard to develop. She said the city might consider setting up a separate zoning district for infill properties or creating an infill planned development district. The Commission agreed it would like to look at some possible regulations for these kinds of sites.

Regarding the tree preservation regulations, Mr. Harvey said he feels the city gives up too many trees without requiring replacements, but he understands the rest of the Commission may not agree. Mr. Filson said he agreed with allowing exceptions for trees within the building pad but for parking lots, if a development removes a tree, then it should replace a tree. Mr. Harvey said it was something to look at, and Ms. Roberts said she could bring some changes back on a future agenda.

The work session closed at 8:02 P.M.

ATTEST:

Ernest Harvey, Chair

Alicia Santos, Board Secretary

Date

Date