

TOWN OF CARBONDALE

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Carbondale, CO 81623
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PLANNING & ZONING COMMISSION AGENDA

THURSDAY, May 11, 2023 at 7:00 P.M.
Carbondale Town Hall & Via Zoom

Please click the link below to join the webinar:

<https://us06web.zoom.us/j/84441474552?pwd=Mld4SFVxemNHYkU3VHY3MEFkbVJ5QT09>

Please note all times are approximate

1. Call To Order
2. Roll Call
3. 7:00 p.m. – 7:05 p.m.
Minutes of the April 13, 2023 meeting Attachment A
4. 7:05 p.m. – 7:10 p.m.
Public Comment for Persons not on the agenda
5. 7:10p.m. – 7:15 p.m.
1629 East Delores Way Development Approval Extension Request Attachment B
6. 7:15p.m. – 8:15 p.m.
Worksession: EV parking spaces, Solar roof-ready, Mandatory Solar, and Beneficial electrification requirements..... Attachment C
7. 8:15 p.m. – 8:20 p.m.
Staff Update
8. 8:20 p.m. – 8:30 p.m.
Commissioner Comments
9. 8:30 p.m. – ADJOURN

Upcoming P & Z Meetings:

5-25-2023 – PUBLIC HEARING: 55 N. 7th Street – Little Blue Preschool Expansion Combined Application: Administrative Site Plan Review, Subdivision Exemption, Special Use Permit and Rezoning

6-8-2023 – Potential PUBLIC HEARING: 55 N. 7th Street – Little Blue Preschool Expansion Combined Application: Administrative Site Plan Review, Subdivision Exemption, Special Use Permit and Rezoning

ATTENTION: All meetings are conducted in person and virtually via Zoom. If you wish comment concerning an agenda item, please email kmcdonald@carbondalecto.net by 4:00 p.m. the day of the meeting.

MINUTES

CARBONDALE PLANNING AND ZONING COMMISSION

Thursday April 13, 2023

Commissioners Present:

Jay Engstrom
Jarrett Mork
Kade Gianinetti (1st Alternate)
Jess Robison (2nd Alternate)

Staff Present:

Jared Barnes, Planning Director
Kelley Amdur, Planner
Kae McDonald, Planning Technician

Commissioners Absent:

Nick Miscione
Jeff Davlyn
Nicholas DiFrank
Kim Magee

March 9, 2023 Minutes:

Motion Passed: Jarrett ***moved*** to approve the March 9, 2023, meeting minutes. Jess ***seconded the motion***, and it was ***unanimously approved***.

Yes: Jay, Jarrett, Kade, Jess

No: none

Public Comment – Persons Present Not on the Agenda

There were no persons present to speak on a non-agenda item.

Upcoming Boards and Commissions Structural Changes

Jared provided some background on this topic, noting that at the request of the Board of Trustees the Town Manager researched the structure of all the Town's advisory boards and commissions with the goal of bringing uniformity to certain aspects of these groups. He referred to the matrix included in the meeting packet, pointing out there are a lot of differences in board makeup, number of members and alternates, appointment dates, interview and appointment process and length of terms. Jared commented that one of the reasons that prompted this review was confusion arising over the process of appointing commission members. Staff recommend a few topics for the BOT to discuss and they would like feedback from each Board/Commission to take back to the BOT for a discussion about those items that could be changed. Jared asked commission members to consider what, if anything, is pertinent to the Commission to maintain or to change and to determine as a group if the Commission would like to submit a written comment most specifically if they feel strongly that the interview/appointment process should be different than currently outlined in the Ordinance.

Appointment Date

Jay asked if appointments would only take place once per year.

Jared replied that, in theory, that should be the process, but in practice applications for the open position are advertised at the time of vacancy. Jared explained that by selecting a uniform appointment date there could be concerted public outreach to right-size interested community members with the appropriate board or commission, whereas in the current situation interested community members might only incidentally learn of a vacancy.

Jerrett asked if the BOT wants the Commission to change or can they give input of preference.

Jared explained that the spring appointment date was proposed by the Parks and Recreation Commission to facilitate the transition of youth members during the school year, attract applicants before the busy months of summer and allow new members to become familiar with projects well before budget season.

Jay commented that he didn't see the effectiveness of all the groups having the same appointment date, pointing out that it might increase competition for members. He added that he was uncomfortable with the possibility that members might only be appointed once per year because if the Commission has occasion to lose two or three members in a short period of time it would add to the burden carried by remaining members.

Jerrett agreed that once per year wasn't ideal, especially considering the Commission's workload. He suggested that appointments take place on a quarterly basis.

Kade agreed that quarterly appointments would be a fair compromise.

Terms

Jared pointed out that the Planning & Zoning Commission was one of the few commissions with a four-year term. He asked if commission members would rather have a two- or three-year term, noting that four years does allow for a learning curve.

Kade agreed that four years was appropriate for this Commission, noting that two years might be too short.

Jerrett suggested extending the term to five years to provide congruence with the comprehensive plan updates. He commented that with a four-year term it was possible to see some larger projects through from beginning to end.

Jay noted that currently members need to re-apply and re-interview to be reappointed for another term and asked if that process would continue.

Jared answered in the affirmative and explained that that process was typical for all the boards and commissions.

Both Jess and Jay agreed that a four-year term is appropriate for this Commission.

Number of Members

Jared noted that the Planning & Zoning Commission currently consisted of seven regular members and two alternates. He asked the commission members if they were comfortable with that configuration and if having two alternates was helpful. Jared explained that other communities he is familiar with allow members to live outside the municipal limits and have professional preferences – for example, no less than three industry professionals – and asked if the commission members thought this was a beneficial criterion.

Jess replied in the affirmative regarding the number of members.

Jerrett wondered if applicants must meet specific criteria if that would limit the number that apply.

Jared commented that the professional criterion is usually a preference, not a requirement.

Jay thought that it was more important to limit the number of industry professionals and encourage applicants from outside that realm.

Jerrett agreed, adding that it is good to have a variety of professionals because they look at plans in different ways and then lay people often have good ideas.

Both Jay and Jess agreed that Carbondale is too small to limit applicants in that way and they want to encourage diversity in a variety of ways.

Kade thought the topic regarding out of town applicants was interesting because there are a lot of people that live outside the municipal boundaries that consider Carbondale their town.

Jared pointed out that most of the boards and commissions allow some out-of-town members.

Jay commented that oftentimes members move outside the municipal boundaries after they have been appointed.

Jared noted that the Historic Preservation Commission suggested allowing individuals who own businesses or work in Carbondale to qualify, or to live in Carbondale's "sphere of influence."

Jay suggested removing the wording and leaving it up to the Board of Trustees to decide.

Kade and Jess both suggested leaving the topic alone unless it becomes problematic.

Interview

Jared commented that the majority of Boards/Commissions interview potential members and then make a recommendation to the BOT for approval. He noted that the interview process for the Planning & Zoning Commission includes the BOT, the Planning & Zoning Commission Chair and one other P & Z member of the Chair's choosing; the code currently doesn't allow for the P & Z Commission, as a whole, to interview applicants. He pointed out, however, that historically the Commission has interviewed and made recommendations to the BOT and the BOT can choose to agree with the recommendation or appoint someone else. Jared offered that if the Commission would like to see the written process changed to be congruent with what has happened historically it might be more impactful to submit a written comment to the BOT. He added that in his experience because the P & Z is a quasi-judicial commission, the interview process is usually undertaken by the BOT.

Jerrett preferred the hybrid scenario in which P & Z interviews applicants, pointing out that he wasn't sure how closely the BOT follows the Commissions actions.

Jay noted that the P & Z Commission used to be a stepping stone to the BOT, and stated that while he understood the Commissions perspective because of its quasi-judicial nature, the BOT should remain involved.

Jess commented that, in her experience, by choosing its own members P & Z Commissions can limit minority opinions and different voices, thereby sowing contention if the group veers into an unhealthy political situation. She thought it important to honor democracy and retain the BOT's involvement and oversight.

Kade understood Jess's perspective but thought there was potential for conflict if the BOT selects an applicant that the P & Z didn't support. He was in favor of the current practice for interviews and appointments. Kade asked why there wasn't a BOT liaison to the P & Z Commission.

Jared replied that there isn't a BOT liaison because of potential conflicts that might arise if a Trustee participates in a P & Z Public Hearing and then must make a decision at the BOT level.

Kade thought it would create better dialogue and context if there were a BOT presence, suggesting their attendance could be limited to non-hearing meetings.

Jared replied that they would need to seek legal guidance because the Trustee might not be able to participate in the same way as they do on other boards and commissions.

Jerrett suggested hosting joint meetings with the Tree Board and Environmental Board, as well.

P & Z/BOT Check-in Discussion

Jay reminded the commission members they have their check-in with the BOT on the upcoming Tuesday, April 18th.

Jared explained that the packet contains his revised draft memo and covers the Commission's service tenure, 2022 accomplishments and approvals, a summary of the Comprehensive Plan Update and 2023 priorities.

Jay thought the format looked good and commented that it was nice to see their accomplishments in addition to all the work on the Comprehensive Plan Update.

Kade asked if the 2023 priorities were listed in order of importance.

Jared replied that the EV parking requirements and solar ready roofs will be part of an upcoming work session and that is why they are listed first.

Kade noted that the other three – Accessory Dwelling Unit regulations, HCC and/or Downtown North zoning and the Multi-Modal Mobility and Access Plan – are the more challenging and higher priorities.

Jared pointed out that the M3AP will be a consultant led process, so the workload on that topic shouldn't be too arduous.

Kade asked if it was possible to get an update on the Town Center project, adding that he still wasn't sure how appropriate it was that the BOT not only chose the consultant, but will be leading the project as well.

Staff Update

Jared stated that he is developing a work session for the EV parking requirements mentioned earlier with the goal being a model for standards dedicating a percentage of parking to EV capable, EV ready and EV installed parking spaces; this will help the Town achieve their "Path to Net Zero." He noted that by establishing those requirements, electrical conduit can be installed while a project is under construction.

Kelley explained that ANB Bank submitted a revised application a few weeks ago and she is working through the completeness review. She noted that the Public Hearing for 55 N. 7th Street/Little Blue Preschool Expansion will take place at the April 27th meeting.

Kelley also informed the commission members that staff will be updating the Historic Preservation web page to highlight recent efforts by that Commission. She asked if commission members have other suggestions, to please contact staff.

Commissioner Comments

Jess suggested that commission members pay attention to the current affordable housing legislation currently being promoted by Governor Polis and if individuals have strong feelings one way or the other to be sure to contact their local representatives.

Jared explained the tenets of the legislation (if approved):

- All the communities across Colorado have been placed into various tiers and each tier has specific requirements to achieve affordable housing; Carbondale is in the least restrictive tier.
- As drafted, ADUs will be a use by right in all zone districts and municipal governments would have limited oversight.
- Municipal governments couldn't limit short-term rentals or require deed restricted units and a variety of requirements would need to be updated to conform with the legislation.
- Carbondale's BOT reviewed the proposed legislation at Tuesday's meeting based on three code analyses from Southwest Energy Efficiency Project (SWEEP), Colorado Municipal League (CML) and Colorado Association of Ski Towns (CAST). SWEEP supported the initiative, while CML opposed the legislation because it removes local control to solve local problems along with the speed at which it is being pushed through at the expense of public outreach. CAST supported some of the initiatives such as reducing the power of HOAs but pointed to the effects the bill would have on the character of municipalities. While the BOT did support some aspects of the bill, Trustees were concerned over the loss of local control and what the legislation might mean for Home Rule municipalities; a letter will be sent to the Representatives Perry and Velasco outlining the BOT's position.
- Trustee Laird pointed out that a more successful approach might be a large sum of money to buy down the cost of housing. He also noted that more housing doesn't always equate to less cost.
- Jared acknowledged that the legislation would have impacts and thought it worthwhile to follow developments. He suggested that if commission members were concerned, they can communicate their thoughts as private citizens or the Commission can draft a letter as a group.

Jay noted that the bill is being pushed hard, but there is a lot of opposition. He thought the impacts might be felt more acutely on the western slope than the Front Range.

Jared pointed out that there might be other solutions such as adopting a real estate transfer tax (which the State of Colorado previously prohibited) or floating a bond to provide a large block of money for affordable housing.

Motion to Adjourn

A motion was made by Jarrett to adjourn, Jess seconded the motion, and the meeting was adjourned at 8:18 p.m.



**TOWN OF CARBONDALE
511 COLORADO AVENUE
CARBONDALE, CO 81623**

Planning and Zoning Commission Memorandum

Meeting Date: 5/11/2023

TITLE: Extension of Site Plan Review Entitlements for 1629 East Dolores Way

Submitting Department: Planning Department

Property Owner: Cooper Duplex LLC

Applicant: Mark Chain Consulting, LLC

Property Location: 1629 East Dolores Way; Lot 5, Kay PUD

Zoning District: Kay PUD

ATTACHMENTS: A: Applicant Letter requesting extension
B: Resolution No. 9, Series of 2021
C: Draft Resolution

Background:

In 2021, Cooper Duplex LLC requested a Special Review for Site Plan and Architectural Design as outlined in the Kay PUD. The proposal included the construction of 9 residential units, eight on a newly-constructed 2nd floor and one ADA accessible unit on the ground floor of the existing building at 1629 East Dolores Way (see photo below). The proposal also detailed that most of the ground floor would remain commercial/warehouse space. In addition, five of the nine residential units were proposed as deed restricted Community Housing Units.

The Planning and Zoning Commission (P&Z) reviewed and approved the proposed project on April 29, 2021 and Resolution No. 9, Series of 2021 was subsequently adopted on May 13, 2021.

The Kay PUD does not specify an approval duration or process to request an approval extension. Unified Development Code (UDC) Section 2.3.9 of the states that the lapsing period shall be two years from the date of approval if a lapse of approval is not specified for a specific process.

Staff has determined that the date of approval is the adoption of the approval Resolution or Ordinance, not the approval of the motion. Therefore, the subject application was approved on May 13, 2021 and the approval lapses on May 13, 2023.

Extension Request:

Mark Chain, on behalf of the property owners, had submitted a request to extend the Special Review for Site Plan and Architectural Design approval for a period of two years to May 2025. The applicant cites much of the work done to date as demonstration of pursuing the project (e.g. permits issued for refurbishment of the commercial units; building permit submitted for the second story residential units).

Staff has determined that the extension request is warranted and that the owners have pursued action on the prior approval in the last two years. Staff recognizes some of the challenges in the construction industry as well as turnover with Town staff which have impacted the ability to move forward with the second story residential portion of the project. Staff supports the requested extension of the Special Review approval.



1629 East Dolores Way

Recommendation:

Staff recommends that the following motion be approved:

Move to approve Resolution No. 2, Series 2023, approving a two-year extension of the Special Review for Site Plan and Architectural Design approval for 1629 East Dolores Way.

Prepared by Jared Barnes, Planning Director

Mark Chain Consulting, LLC

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April 17, 2023

Jared Barnes, Planning Director
Town of Carbondale
511 Colorado Avenue
Carbondale, CO 81623

RE: 1629 East. Dolores Way

Dear Jared:

Thank you for meeting with us on April 13. Per our discussion, please consider this a formal request to extend the approvals for the above referenced project. We would be looking for a 2-year extension until May 2025.

For background, Cooper Duplex LLC received approval for a Special Review for Site Plan and Architectural design for this property which is legally described as Lot 5 of the Kay PUD by the adoption of Resolution No. 9 – Series of 2021 dated May 13, 2021. An unexecuted copy is attached. The approval included a total of 9 residential units with eight units on the 2nd floor and one ADA accessible unit on the first floor. 5 of the 9 units are deed restricted Community Housing Units. Most of the first floor will remain commercial/warehouse space.

The Amended and Restated Kay PUD does not provide a specific lapse of approval time frame for which this type of special review. However, Section 2.3.9 of the UDC notes that if the lapse of approval is not noted in a specific process the lapsing period shall be two years from the date of approval. Cooper Duplex LLC obtained its first building permit about a year ago for the purpose of refurbishing the commercial units and preparing for installation of a second story. That building permit has been closed out. The owners submitted building permit plans for the residential units. The Town's Building Department requested specific MEP (mechanical, electrical and plumbing) Information. The engineering firm indicated it could take several months to turn these documents around. We are making the required modifications so that the project can move forward, and the building permit be obtained. With this relatively slow turnaround and with the recent changes to the Carbondale Building Department we are not sure when the permit will be able to be issued. Therefore, we are making the request so that if an extension is required it is in place.

Mark Chain Consulting, LLC

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Please let me know if you need additional information or wish to discuss. We are hoping to be on either the April 27 or the May 11 agenda. Thanks for your attention to this matter.

Sincerely,

Mark Chain

Mark Chain, Planner



Reception #: 956761
05/21/2021 11:44:41 AM Jean Alberico
1 of 2 Rec Fee:\$18.00 Doc Fee:0.00 GARFIELD COUNTY CO

RESOLUTION NO. 4
SERIES OF 2021

A RESOLUTION OF THE PLANNING AND ZONING COMMISSION OF THE TOWN
OF CARBONDALE, COLORADO, APPROVING A SPECIAL REVIEW FOR
1629 EAST DOLORES WAY, LOT 5 OF THE KAY PUD

WHEREAS, Cooper Duplex LLC. (“Applicant”) has requested a Special Review for Site Plan and Architectural Design approval for the above-described property in order to increase residential density to allow ground floor residential on Lot 5 of the Kay PUD as follows;

- Number of Units to be located on ground floor and second floor.
- One Ground Floor ADA Unit
- 8 Upper Floor Units
- Total 9 Units

WHEREAS, Site Plan and Architectural Design Review is a special review under Section F of the Kay PUD; and

WHEREAS, the Planning and Zoning Commission of the Town of Carbondale reviewed this application at the April 29, 2021 Planning and Zoning Commission meeting; and

WHEREAS, the Planning and Zoning Commission of the Town of Carbondale finds the following with respect to this Site Plan and Architectural Design Special Review:

- A. Cooper Duplex LLC. proposal located at 1629 East Dolores Way is capable of accommodating the intended use of the land, including residential units; is free from natural hazards such as flooding, falling rock, landslides and snowslides; is served by a street system providing safe and convenient access, and is provided with accessible utility installations; with all of the foregoing intended to promote the health, safety and welfare of the citizens of the Town.
- B. The proposed addition will have adequate ingress and egress directly through common or limited common elements to public access and access to trails and transit facilities.
- C. The proposal meets the criteria as indicated in the Amended and Restated Zone Text for the Kay PUD, Section F. criteria for approval.

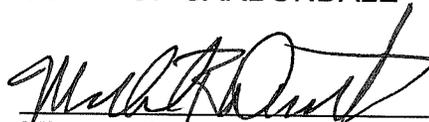
NOW, THEREFORE BE IT RESOLVED BY THE PLANNING AND ZONING COMMISSION OF THE TOWN OF CARBONDALE, COLORADO, that the Special Review, Site Plan and Architectural Design for the Lot 5, Kay PUD, 1629 East Dolores Way is hereby approved, subject to the following conditions:

1. All representations of the Applicant and Applicant's representatives at the Public Hearing shall be considered conditions of approval of this Special Review.
2. All development shall comply with the plans submitted with the application materials.
3. All lighting shall comply with the Town's Lighting Ordinance.
4. Prior to issuance of a building permit, the Applicant shall pay the Town a Water Rights Dedication Fee to be determined at permit submittal.
5. The Applicant shall plant 18 trees per the landscaping standards within the Kay PUD.
6. The applicant will submit Deed Restrictions for all 5 restricted units for review and approval by the Town and the Garfield County Housing Authority prior to the issuance of a building permit for any of the residential units
7. The Applicant shall be responsible for all recording costs and shall pay all fees associated with this application to the Town, including any professional fees, as set forth in Appendix A of the Municipal Code.
8. The applicant shall pay all required School and Fire impact fees and provide proof of said payment to the Town prior to the issuance of Certificates of Occupancy for the residential units.
9. The applicant shall provide rental guidelines to include parking restrictions on the number and location of parked vehicles that demonstrate the project promotes the Kay PUD goals for transit-oriented development before the issuance of any residential Certificates of Occupancy.
10. The applicant shall work with RFTA to provide a method of access to the RFTA park and ride facility for tenant use.

INTRODUCED, READ, AND PASSED THIS 13th DAY OF MAY 2021.

PLANNING AND ZONING COMMISSION OF
TOWN OF CARBONDALE

By:



Michael Durant, Chair

TOWN OF CARBONDALE
PLANNING AND ZONING COMMISSION
MAY 21 2021 11:44 AM

RESOLUTION NO. 2
SERIES OF 2023

A RESOLUTION OF THE PLANNING AND ZONING COMMISSION OF THE TOWN OF CARBONDALE, COLORADO, APPROVING A TWO-YEAR EXTENSION OF A SPECIAL REVIEW FOR SITE PLAN AND ARCHITECTURAL DESIGN APPROVAL FOR 1629 EAST DOLORES WAY, LOT 5 OF THE KAY PUD

WHEREAS, Planning and Zoning Commission Resolution No. 4, Series 2021 approved a Special Review for Site Plan and Architectural Design to increase the residential design and to allow ground floor residential on Lot 5 of the Kay PUD as follows:

Total of 9 Units to be located on ground floor and second floor as follows:
One Ground Floor ADA Unit
8 Upper Floor Units

WHEREAS, neither Resolution No 4., Series 2021 nor the Kay PUD specify a lapse of approval timeframe and pursuant to Unified Development Code ("UDC") Section 2.3.9 the default lapsing period is two years. Said approval of a Special Review for Site Plan and Architectural Design expires on May 13, 2023.

WHEREAS, on April 17, 2023, Mark Chain Consulting, LLC ("Applicant") on behalf of Cooper Duplex LLC ("Owner") has requested a two-year extension of the approvals for the above-described property; and

WHEREAS, the Planning and Zoning Commission of the Town of Carbondale reviewed the requested extension of approvals at the May 11, 2023 Planning and Zoning Commission meeting.

NOW, THEREFORE BE IT RESOLVED BY THE PLANNING AND ZONING COMMISSION OF THE TOWN OF CARBONDALE, COLORADO, that a two-year extension of approval of a Special Review for Site Plan and Architectural Design for Lot 5, Kay PUD, 1629 East Dolores Way, is hereby approved, subject to the following conditions:

1. All representations of the Applicant and Applicant's representatives at the Planning Commission meeting on April 27, 2023 shall be considered conditions of approval of this Special Review.
2. The conditions of approval set forth in Resolution No. 4, Series of 2021 are hereby incorporated herein by reference (with the same force and effect as though fully set forth herein).
3. The Special Review for Site Plan and Architectural Design for Lot 5, Kay PUD, 1629 East Delores Way, shall lapse on May 13, 2025.

INTRODUCED, READ, AND PASSED THIS 11th DAY OF MAY, 2023.

PLANNING AND ZONING COMMISSION OF
TOWN OF CARBONDALE

By: _____
Jay Engstrom, Chair



**TOWN OF CARBONDALE
511 COLORADO AVENUE
CARBONDALE, CO 81623**

Planning & Zoning Commission Memorandum

Meeting Date: 4/27/2023

TITLE: Sustainability Worksession

Submitting Department: Planning Department

Property Owner: N/A

Applicant: N/A

Property Location: N/A

Zone District: N/A

ATTACHMENTS:

1. CLEER Memo dated 9/27/22
2. Beneficial Electrification Articles
3. EV Parking Regulations (Denver, Avon, Crested Butte, Vail)
4. Eagle Valley Climate Action Collaborative Recommended Codes
5. UDC Code Sections

BACKGROUND

The Board of Trustees have adopted a few documents over the years which outline the Town's commitment to sustainability measures. One area of note is the Town's commitment to providing code language and guiding documents that improve sustainable development. Some of the prior actions of the Trustees are:

1. 2017 Carbondale Climate & Energy Action Plan (CEAP);
2. Path to Net Zero for New Construction
3. Adoption of the 2018 International Green Commercial Code (IGCC)

The pathway to Net Zero for New Construction outlines a couple of action items that inform this worksession. First, the adoption of the 2021 International Energy Conservation Code (IECC) was identified as a 2022 goal. Second, electric ready buildings and 25% renewable production were identified for both commercial and residential construction in 2022.

Many of these items are captured during the building permit phase of construction as the details for compliance with the Town's building codes are more developed and proper construction can be ensured.

CLEER, Carbondale's sustainability consultant, presented recommendations for updates to the Unified Development Code (UDC) to Staff. Staff classified the recommendations into two sets of code updates:

1. EV Charging; Mandatory Solar; Beneficial Electrification; Solar Ready Roofs
2. Solar Orientation; Building Orientation; Driveway Orientation

The first set of updates were selected because they were more straightforward and likely involved less analysis and adoption. The second set of amendments could involve more conversations and ultimately delay adoption of the first set of UDC amendments.

DISCUSSION

As stated previously, the first set of recommendations are requirements that would be verified in the building permit phase of development. One concern brought before town was that the development community is often unaware of the requirements early in building permit plan development when incorporation is easier. A recommendation from CLEER is to update the UDC to cross-reference the building code requirements and alert designers and developers of the requirements at the planning level.

Mandatory Solar and Solar Ready Roofs

The recommendation from CLEER is that all new buildings and additions shall have renewable energy devices installed pursuant to the adopted Building Codes, such as the IGCC and IECC. In addition, CLEER recommends that all newly constructed residences include a minimum percentage of the total roof area to be constructed for solar gain and wired for solar energy collectors. The current UDC (Attachment 5) only sets forth broad regulations for solar energy devices.

Combined these sections support the Path to Net Zero and the Trustees goal of all electric buildings. As new building codes are adopted, the references in the UDC can stay static and reference the changing and increasing obligations. The cross reference in the code could allow Staff and the P&Z to ensure that areas are identified for solar during the Site Plan review process.

Beneficial Electrification

Beneficial Electrification is the replacing of gas combustion appliances inside of buildings with high-efficiency electric equipment. The UDC does not have any reference to the concept of beneficial electrification. The requirement of beneficial electrification would support the Town's goals to transition away from new gas lines for buildings and move to all electric buildings. CLEER's recommendation is to cross-reference the building code requirements in the UDC to alert developments of the requirements.

EV Charging Parking Spaces

Currently, the UDC sets forth parking standards based on the use of a structure. The UDC also includes dimensional standards for parking lots and spaces. The UDC does not include any requirements for EV Charging and any dedicated spaces are either development proposed, or Town requested through the planning process. Carbondale has adopted the 2015 IECC and the 2018 IGCC, neither of the adopted building codes with their amendments, include provisions for EV parking spaces. The 2021 editions of the IECC and IGCC do include requirements for EV parking spaces, but many peer communities have adopted amendments that change and ultimately increase the requirements.

CLEER's recommendation is to adopt new standards that require EV parking spaces to be identified at the Site Plan review process and followed through for execution at the Building Permit stage.

EV parking space requirements generally include three levels of installation. First, EV capable space is where infrastructure such as conduits are installed to allow for future installation of a charging unit. Second, EV ready space is when electrical wiring is installed and ready for the charger installation. Third, EV installed space is when the charger is installed, and the space is dedicated for EV use.

Most peer communities that have adopted standards set the requirements as a percentage of the total number of parking spaces proposed. As stated above many communities who have adopted the 2021 IECC and IGCC, place their EV space requirements as amendments to their adoption and some include cross references to the building code. Unlike the prior recommended updates, alerting developments to the requirements of EV parking spaces is important at the planning level and verifying compliance through the site plan review is beneficial to both the Town and property owner.

Attached to this memo are examples of requirements for spaces from peer communities.

Building, Driveway, and Solar Orientation

The UDC contains some references to general development orientation. The requirements are broad and applicable to all residential and commercial development. The UDC does not contain any language about driveway orientation.

The recommendations from CLEER would add additional language to ensure that developments are more thoughtful with regard to site layout and building orientation.

WORKSESSION

The goal of this worksession is to introduce the topics to the P&Z, solicit feedback, and determine if there is other information that the P&Z would desire to have during a public hearing. Below are a few questions to assist with the conversation:

1. Does the P&Z support Staff's recommendation to hold off on discussing orientation UDC updates and only reviewing the above outlined amendments?
2. Does the P&Z have concerns about cross-referencing building code requirements in the UDC?
3. With regard to solar ready roofs, should the Town pursue a minimum percentage for compliance? If so, are there any initial thoughts on the 35% minimum that Pitkin County has adopted?
4. Regarding EV Parking Spaces:
 - a. Is there support for the concept of requiring EV parking spaces?
 - b. Are the industry standard categorization of parking space types acceptable?
 - c. Should the regulations be separated out with different requirements for Residential and Commercial? What about single-family versus multi-family structures?
 - d. Does the P&Z have and thoughts on the peer community requirements (e.g. Denver, Aspen, Crested Butte, Avon/Eagle County)? Where should Carbondale fit with respect to the requirements?
5. Is there information that the P&Z would find helpful when reviewing proposed UDC amendments that Staff and/or CLEER can work on providing?

RECOMMENDATION

Staff recommends the P&Z have an open dialogue regarding the proposed UDC amendment categories and provide feedback to Staff. If the P&Z wants to move the UDC amendments forward and direct staff to prepare amendments, the P&Z could initiate a Code Text Amendment to the UDC for consideration of mandatory solar, solar ready roofs, beneficial electrification, and electric vehicle parking space regulations.

Prepared By: Jared Barnes, Planning Director



To: Lauren Gister, Carbondale Town Manager, Jared Barnes, Planning Director

From: Zuleika Pevec and Heidi McCullough, CLEER and Jeff Dickinson, Biospaces Energy Consulting

Date: September 27, 2022

Re: Energy Items to be added to UDC.

The following items have been identified in the Climate Action Plan and from input from the environmental board and consultants. There are 4 main areas for discussion. EV charging requirements, Solar orientation, mandatory solar & beneficial electrification.

Items to be added to the UDC

1. EV Charging

The intent is to provide for various levels of EV chargers in new construction. Below is what Denver is doing

**TABLE C405.10.1
EV SPACES IN GROUP R OCCUPANCIES**

	NUMBER OF EV READY SPACES	NUMBER OF EV CAPABLE SPACES	NUMBER OF EVSE INSTALLED SPACES
1 Space	1	None	None
2 to 9 spaces	1	20% of spaces	None
10 or more spaces	15% of spaces	Remainder of spaces	5% of spaces

Table C405.10.2 EV spaces in Group A, B, E, I, M and S-2 occupancies is added as follows:

**TABLE C405.10.2
EV SPACES IN GROUP A, B, E, I, M and S-2 OCCUPANCIES**

	NUMBER OF EV READY SPACES	NUMBER OF EV CAPABLE SPACES	NUMBER OF EVSE INSTALLED SPACES
1 Space	1	None	None
2 to 9 spaces	1	1	None
10 or more spaces	10% of spaces	10% of spaces	5% of spaces



2. Solar Orientation

7-20-150: SOLAR ACCESS (From Pitkin County)

To ensure maximum solar access, all subdivisions shall:

- (a) Provide for east-west street orientations, when practicable, based upon relationships to existing connecting roadways, grades, natural features and all other relevant physical considerations; and
- (b) Be designed to ensure the maximum number of buildings receive sunlight. Locate buildings and vegetation so unobstructed sunlight reaches the rooftop and south wall of the greatest possible number of buildings between the hours of 9:00 a.m. and 3:00 p.m.

Building Orientation Guidelines:

New buildings should exhibit some or all of the following characteristics:

1. Orientation of the largest building wall of the buildings, as measured by surface area, should be south-facing and within thirty (30) degrees of the east-west axis.

STANDARD FOR SOLAR ROOF READINESS AND GUIDELINES FOR SITE ORIENTATION FOR SOLAR ACCESS:

A. Intent:

These provisions are intended to enhance the passive solar gain potential of new buildings and provide for the future installation of roof-mounted solar energy collectors at the site design stage of development.

B. Solar Roof-Readiness Standard

1. All newly constructed residences shall have a minimum of thirty-five (35) percent of total roof space constructed for solar gain and be wired pursuant to the Pitkin County Building code for the construction of solar energy collectors.

C. Driveway Orientation Guidelines:

Driveways, auto-courts, and parking areas should exhibit some or all of the following characteristics:

1. Location on the south-facing side of buildings and/or parcels:
2. Eighty (80) percent of the driveway is oriented within thirty (30) degrees of the north south axis.
3. No new vegetation should be installed within ten (10) feet of the driveway, auto-court or parking area unless said vegetation has an average mature height of less than five (5) feet.
4. New non-deciduous vegetation, which is installed within twenty-five (25) feet of the driveway, auto-court or parking area and has an average mature height of over five (5) feet, should have a minimum spacing of fifteen (15) feet between the bases of tree trunks.

D. Building Orientation Guidelines:

New buildings should exhibit some or all of the following characteristics:

1. Orientation of the largest building wall of the buildings, as measured by surface area, should be south-facing and within thirty (30) degrees of the east-west axis.

2. Orientation of the long axis of the building should be within thirty (30) degrees of the true east-west axis.

3. Mandatory Solar

All new buildings and additions shall have renewable energy devices installed per the Town of Carbondale Energy Code amendments.

4. Beneficial Electrification

All new buildings and additions shall be planned for Electric Ready or shall install Beneficial Electrification equipment per the Town of Carbondale Energy Code amendments.



EnergySmart
COLORADO



ENERGY SMART ENCOURAGES CARBON REDUCTION THROUGH BENEFICIAL ELECTRIFICATION

Why Electrify?

Natural gas, propane, and other fossil fuels that have to be transported to homes have a number of problems, from carbon emissions to creating dangerous gas byproducts in the home. Through a more efficient use of electrical energy, homeowners can save money, increase comfort, improve home safety and indoor air quality, and reduce environmental impact when compared to natural gas, propane, and oil.

What is Beneficial Electrification?

Building Electrification or “Beneficial Electrification” means replacing gas combustion appliances inside of buildings with high-efficiency electric equipment.

What Can Be Electrified?

Heating & Cooling Equipment

Despite its name, **heat pumps** offer an energy efficient way to heat AND cool homes. Heat pumps run on electricity but move heat rather than generate it. As they are efficient at temperatures down to -20F, a new generation of cold-climate heat pumps has made this technology an appropriate choice for our colder, mountain regions. The cost to operate a

heat pump in the winter is much less than oil, propane, or electric resistance heating. In fact, the operating cost is similar to heating with natural gas. However, unlike natural gas, heat pumps do not require transporting fossil fuels and only need an electrical connection to operate.

Combined with a cleaner grid (depending on the electric utility and its energy portfolio) and renewable-energy systems, heat pump systems are a key part of beneficial electrification.

- [Visit the Department of Energy's overview page on heat pumps](#)
 - [Check out this air source heat pump buying guide from NEEP](#)
 - [Learn more about operating a heat pump](#)
 - [Read this NY Times article, "A Heat Pump Might be Right for your Home. Here's Everything to Know."](#)
-

Water Heating Equipment

Heat pump water heaters store heated water in a tank for later use and require a fraction of the energy of a conventional water heater or boiler.

[Consider a heat pump water heater](#)

Cooking Equipment

[Replace a gas stove with an induction cooktop](#)

Clothes Dryers

Heat pump clothes dryers are 50% more efficient than typical gas dryers. Additional advantages include:

- Easy to install in small spaces as no is ventilation required
- Gentler on clothes as they dry at lower temperatures
- Rebates may be available for installation

[Learn more about heat pump clothes dryers](#)

Get Energy Advising on Electrification

Several Energy Smart partners provide advice and increased incentives for residents to reduce carbon emissions through electrification. Click on your Energy Smart Partner to connect:



EESI
 Environmental and Energy
 Study Institute

Ideas. Insights. Sustainable Solutions.

(/)

(/about/recognition)

About (/about) | News (/news) | Get Involved (/get-involved) | Subscribe (/subscribe) |

Contact (/contact) |

Beneficial Electrification

An Access Clean Energy Savings Program

[Home \(/\)](#) ▶ [Electrification \(/electrification/\)](#) ▶ [Beneficial Electrification](#)

Beneficial electrification (or strategic electrification) is a term for replacing direct fossil fuel use (e.g., propane, heating oil, gasoline) with electricity in a way that reduces overall emissions and energy costs. There are many opportunities across the residential and commercial sectors. This can include switching to an electric vehicle or an electric heating system – as long as the end-user and the environment both benefit.

See our report, *Equitable Beneficial Electrification for Rural Electric Cooperatives*.

(<https://www.eesi.org/electrification/equitable-electrification-report>)

Beneficial Electrification – A Win-Win for Utilities, the Environment, and Electricity Users

The power sector is currently undergoing a period of unprecedented transformation. Energy efficiency and demand-response technologies are reducing power demand, while cheap renewable power and coal plant retirements are reducing the carbon intensity of the electric grid. As a result, electricity is becoming more climate-friendly in many places.

At the same time, electric utilities are looking for new ways to reverse declining electricity sales. Tying these objectives together – increasing electricity sales and decreasing carbon emissions in a cost-effective way for customers – can create new "win-win-win" propositions for electric utilities, the environment, and individuals. Beneficial electrification would increase the sale of electricity while simultaneously greening the grid – linking the electric utility business model to a clean energy future.



Residential wind and solar energy

(copyright: Diyana Dimitrova)

The scale and impact of such a transformation would be huge. Full electrification of the U.S. transportation, commercial and residential sectors would double electricity use by 2050 and reduce greenhouse gases by 70 percent. The goal of beneficial electrification is to strategically target the most practical and valuable fuel switching opportunities given current technology, electricity fuel mix, and energy costs. However, these variables are fluid, and what is most “beneficial” to the environment and individuals may change in just a few years. Therefore, the challenge for the utility planners is to anticipate these changes and determine the value of electrification over the lifetime of a particular investment.

A Paradigm Shift

Rethinking Efficiency

Check out this insightful piece, "**Toward A New Energy Efficiency World Order,**" (<https://www.fortnightly.com/fortnightly/2019/05/toward-new-energy-efficiency-world-order?authkey=b6a6e0576969fb020385c86718e998768e4eb169d0bf416c7ac5f595ad7a6b05>) arguing that we need to rethink energy efficiency. **Using more electricity can be beneficial to the environment and to customer pocketbooks!**

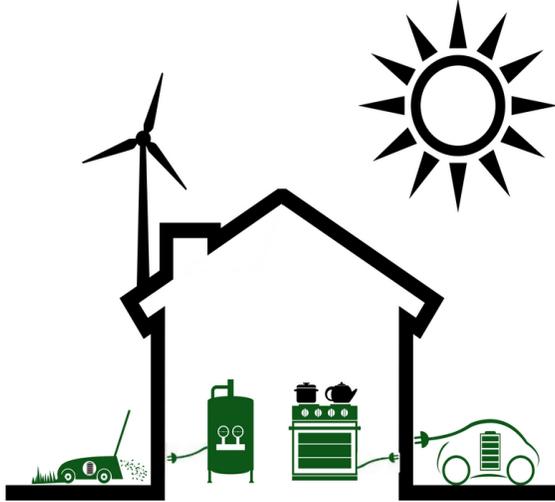
*Link provided with permission of **Public Utilities Fortnightly** (<https://www.fortnightly.com/>)*

Most vehicles and homes rely on the direct burning of energy-dense liquid fuels to produce on-demand, localized power and heat, respectively. Conventional wisdom dictates that on-site fossil fuel use is more efficient in these applications, as a great deal of energy is lost during the conversion and transmission of electricity.

However, several changes are converging to make the increased electrification of various sectors an increasingly attractive option from both an environmental and utility perspective. These include:

- Rapid growth in low-cost, zero-emissions power,
- Volatility in fossil fuel prices and availability (especially propane and heating oil),

- ^{Page 27 of 67} Increasing efficiency and performance of electric-powered appliances and vehicles,
- Growing need for electricity load management, and
- Emission reduction goals



Design: Joanne Zulinski

These fundamental changes will require a paradigm shift in business as usual from utilities, policymakers, and other stakeholders. Currently, state policies largely treat the power, heating and transportation sectors as separate entities. Additionally, emission reduction and efficiency targets – where they exist -- are set individually for utilities. Therefore, an electric utility is largely disincentivized from growing its market share, even if it could be done in an environmentally beneficial manner.

Beneficial electrification is a new approach to the energy sector that looks at energy consumption across the economy. For example, an electric vehicle should not be judged on how much electricity it consumes, but rather the lifecycle energy savings it offers over a gas-powered

vehicle. Current efficiency policies should be modified to capture such a holistic approach to the energy sector.

Opportunities for Beneficial Electrification

Heating



(Credit: David Dodge, GreenEnergyFutures.ca)

Hot water heaters and building heating systems are excellent candidates for electrification. Heating systems that use oil or propane, in particular, are ideal candidates for beneficial electrification, as both have higher costs and carbon emissions than natural gas systems. As of 2015 (<https://www.eia.gov/consumption/residential/data/2015/hc/php/hc6.6.php>), 36 percent of American households use electricity as a primary heating fuel, while 10 percent use oil or propane.

The efficiency of electric powered appliances has increased dramatically in recent years. Improvements in electric heat pump technology means these appliances can heat space and water at efficiencies between 200 and 300 percent, compared with 67 percent for a typical Energy Star gas water heater. Additionally, while older heat pumps could not operate effectively below 40 degrees Fahrenheit, newer systems are more effective at lower temperatures, increasing their viability in colder climates (a highly efficient heat pump water heater is pictured).

Transportation

Even with both increased vehicle energy efficiency and reliance on biofuels, electrification will be necessary to fully decarbonize the transportation sector. And while the exact carbon savings from electric vehicles (EVs) depends on how the electricity is generated, a 2016 National Renewable Energy Laboratory study found that even EVs powered by coal-fired electricity emit less carbon than a gasoline-powered vehicle.



Nissan Leaf (courtesy: Nissan).

Every major automotive manufacturer has pledged to greatly increase their offering of plug-in hybrid or fully electric vehicles in the coming years to meet efficiency standards and consumer preferences. Utilities will need to play an important role in the build-out of charging infrastructure, especially of the high-powered fast-charging stations that will be needed for daytime charging. To prepare for (and encourage) the power demand created by EVs, some electric utilities already offer customers financial incentives such as charging station rebates or modified billing rates for EV charging. Additionally, utilities are beginning to support EVs beyond personal vehicles, including electric utility work trucks (<http://www.pgecurrents.com/2017/03/07/new-plug-in-electric-truck-helps-keep-the-lights-on-during-outages/>) and school buses (<http://midwestenergynews.com/2017/07/11/minnesota-district-to-get-midwests-first-electric-school-bus-this-fall/>).

How EESI Can Help

EESI offers beneficial electrification “mini-assessments” for rural electric cooperatives and municipal utilities. The assessment helps a utility to determine the best electrification opportunities in its service territory and offers potential pathways forward. EESI’s work is grant-funded; its program-related assistance is available for free to eligible utilities and related stakeholders.

For more information see:

Expanding Clean Energy and Electrification Opportunities in Rural America (<https://ncbaclusa.coop/blog/did-you-miss-our-expanding-clean-energy-and-electrification-opportunities-in-rural-america-webinar-learn-more-about-how-cooperatives-can-play-a-role-in-infrastructure-and-climate-change/>), NCBA CLUSA

Electrification: Emerging Opportunities for Utility Growth (http://files.brattle.com/files/7376_electrification_whitepaper_final_single_pages.pdf), The Brattle Group

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CHAPTER 2 [CE]

DEFINITIONS

SECTION C202

GENERAL DEFINITIONS

The following definitions are added:

ALL-ELECTRIC PROPERTY. A *property* that contains no permanently installed equipment or appliances that utilize *combustion*, plumbing for fuel gas or fuel oil or *fuel gas* utility connection, installed within the *building(s)* or *site*, except for *emergency power systems* and *standby power systems*.

AUTOMOBILE PARKING SPACE. A space within a building or private or public parking lot, exclusive of driveways, ramps, columns, office, and work areas, for the parking of an automobile.

CODE OFFICIAL. The building official as created in Chapter 1 of the Denver Building Code, Sec. 102.2

COMBUSTION. For purposes of this code, the rapid oxidation of fuel accompanied by the production of heat or heat and light.

COMMERCIAL COOKING APPLIANCE. Appliances used in a commercial food service establishment for heating or cooking food. For this definition, a commercial food service establishment is where food is prepared for sale or is prepared on a scale that is by volume and frequency not representative of domestic household cooking.

DEMAND RESPONSE PROGRAM. An agreement between a *building* occupant or *building* owner and third party to install and operate *demand responsive controls* in the building that automatically adjust building operations in response to a *demand response signal* from the third party.

DEMAND RESPONSE SIGNAL. A signal that indicates a price or a request to modify electricity consumption for a limited time period.

DEMAND RESPONSIVE CONTROL. A control capable of receiving and automatically responding to a *demand response signal*.

DIRECT CURRENT FAST CHARGING (DCFC) EVSE: (fast/rapid charging) Equipment capable of fast charging on a 100A or higher 480VAC three-phase branch circuit. AC power is converted into a controlled DC voltage and current within the EVSE that will then directly charge the *electric vehicle*.

ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, and electric motorcycles, primarily powered by an electric motor that draws current from a building electrical service, EVSE, a rechargeable storage battery, a fuel cell, a photovoltaic array, or another source of electric current.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). Equipment for plug-in power transfer including the ungrounded, grounded and equipment grounding conductors, and the *electric vehicle* connectors, attachment plugs, personal protection system and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the *electric vehicle*.

ELECTRIC VEHICLE SUPPLY EQUIPMENT INSTALLED SPACE (EVSE Installed Space). An *automobile parking space* that is provided with a dedicated *EVSE* connection.

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ELECTRIC VEHICLE CAPABLE SPACE (EV CAPABLE SPACE). A designated *automobile parking space* that is provided with electrical infrastructure, such as, but not limited to, raceways, cables, necessary for the future installation of an *EVSE*. No electrical service or panel capacity is required for EV Capable Spaces at the time of construction.

ELECTRIC VEHICLE READY SPACE (EV READY SPACE). An *automobile parking space* that is provided with a branch circuit and either an outlet, junction box or receptacle, that will support an installed *EVSE*.

ELECTRIFICATION RETROFIT FEASIBILITY REPORT. A means a report that analyzes the feasibility of using an electric heat pump when certain appliances are proposed to be replaced without an electric heat pump, and that also lists the following: the cost of the appliance with and without an electric heat pump, the annual energy cost of the appliance with and without an electric heat pump, and the social cost of carbon dioxide over the life of the appliance with and without an electric heat pump.

EMERGENCY EQUIPMENT REPLACEMENT. Where only one piece of heating equipment, cooling equipment, ventilation system, or service water heating equipment is failing and is replaced by another having the same heating or cooling capacity, and no other alterations are made to the central HVAC system or central water heating system.

EMERGENCY POWER SYSTEM. A source of automatic electric power of a required capacity and duration to operate required life safety, fire alarm, detection, and ventilation systems in the event of a failure of the primary power. Emergency power systems are those required for electrical loads where interruption of the primary power could result in loss of human life or serious injuries.

Delete residential building and replace with:

RESIDENTIAL BUILDING. For purposes of this code, detached one- and two-family dwellings and multiple single-family dwellings (townhouses) and Group R-3 and R-4 buildings three stories or less in height above grade plane.

PREDICTED ENERGY USE INTENSITY (pEUI): the annual site energy use of the *proposed design* per year in units of kBtu/sq.ft (of building floor area)/yr.

SOCIAL COST OF CARBON DIOXIDE. Means either \$79 per metric ton of carbon dioxide with annual escalation rate of 2.5% from January 1st, 2022, or the social cost of carbon dioxide as determined by the Public Utilities Commission of the State of Colorado, whichever is greater.

SOLAR-READY ZONE. A section or sections of the roof or building designated and reserved for the future installation of a solar photovoltaic and/or solar thermal system.

STANDBY POWER SYSTEM. A source of automatic electric power of a required capacity and duration to operate required building, hazardous materials or ventilation systems in the event of a failure of the primary power. Standby power systems are those required for electrical loads where interruption of the primary power could create hazards or hamper rescue or fire-fighting operations.

STEEP-SLOPED ROOF. A roof or roof section with a rise over run of at least 2 in 12 (2:12).

UNGUARDED BLOWER DOOR TEST. A test where pressures are induced only via a Blower Door (or Blower Doors) attached to the subject Dwelling Unit, not induced through the use of Blower Doors attached to spaces adjacent to the subject Dwelling or Sleeping Unit.

WATER USAGE EFFECTIVENESS, SITE. The total water consumed onsite for a data center divided by its electrical energy consumption, in units of liters per kilowatt hour (L/kWh). Represented as WUE_{site} or WUE; when no subscript is present the water usage effectiveness is presumed to be at the site level.

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CHAPTER 11 ACCESSIBILITY

SECTION 1101

GENERAL

Section 1101.1 Scope is amended by adding the following sentences to the end of the paragraph:

Where there are seven or more residential dwelling units in a project, the provisions of Colorado Revised Statutes (C.R.S.) Title 9, Article 5, Standards for Accessible Housing, shall be enforced by this code. C.R.S. Title 9, Article 5 as amended, is reproduced in Appendix R of this code for reference.

Section 1101.2 Notice and warning is added as follows:

1101.2 Notice and warning. Although this code enforces the provisions of Title 9, Article 5, C.R.S., as amended, as set out in Section 1101.1 above, this code has not been certified or otherwise conformed by the U.S. Government or State of Colorado to the requirements or the Americans with Disabilities Act (“ADA”) the Rehabilitation Act, the HUD Fair Housing Act or any other State of Colorado accessibility laws, including but not limited to the Colorado Anti- Discrimination Act (“CADA”).

Therefore, compliance with this code does not assure compliance with Titles II or III of the ADA, the Rehabilitation Act, the HUD Fair Housing Act or any other Federal or State laws, except as provided in Section 1101.1 above, or any regulations or guidelines enacted or promulgated with respect to such laws. The City and County of Denver is not responsible for enforcement of the ADA, Rehabilitation Act, HUD Fair Housing Act or such other Federal or State laws, except as provided in Section 1101.1 above.

Building plans submitted under this code will be reviewed and inspected for compliance with this code and will not be reviewed or inspected for compliance with the requirements of the ADA, Rehabilitation Act, HUD Fair Housing Act or other Federal or State laws, except as provided in Section 1101.1 above. Therefore, it is the sole responsibility of the developer or building owner to have their plans or facilities independently evaluated by knowledgeable professionals in order to comply with the applicable requirements of the above-listed laws.

Any accessibility related modification to a building shall require a building permit.

SECTION 1105

ACCESSIBLE ENTRANCES

Section 1105.1.1 Automatic doors is amended by adding the following sentence to the end of the section:

For the purpose of determining power-operated door requirements, a tenant space with its own exterior *public entrance* shall be considered a separate facility and building.

SECTION 1107

MOTOR-VEHICLE-RELATED FACILITIES

Section 1107.2 Electrical vehicle charging stations is amended by deleting the Exception.

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Section 1107.2.1 Number of accessible vehicle spaces is deleted entirely and replaced as follows:

1107.2.1 Minimum number of universal vehicle charging stations. In addition to accessible parking spaces required by 1106.2, where *electric vehicle charging stations* are provided, all *EVSE Installed Spaces* shall be *universal vehicle charging stations*.

Exception: For parking facilities of more than 100 total parking spaces, or 200 total parking spaces for Group I occupancies, where EVSE Installed spaces are provided, in addition to the accessible spaces required by 1106.2, a minimum of 10 plus 5% of all *EVSE Installed Spaces* shall be designated as *universal vehicle charging stations*. The total number of *universal vehicle charging stations* need not exceed 40.

Fractional or decimal values shall be rounded up to the next whole number.

Section 1107.2.2 Vehicle space size is deleted entirely and replaced as follows:

1107.2.2 Parking space size. Parking spaces serving *universal vehicle charging stations* shall have a vehicle width of 120 inches, minimum (3048 mm) with 36-inch access aisles (915 mm) on each side. When multiple stalls are required, access aisles may be shared. *Electric Vehicle Supply Equipment* shall not encroach on the required width of access aisles when not in use.

CHAPTER 15

ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

SECTION 1503

WEATHER PROTECTION

Section 1503.2.2 Mechanical equipment on roof is added as follows:

1503.2.2 Mechanical equipment on roof. Mechanical equipment placed or reset on roofing shall be supported on minimum 8-inch (203-mm) curbs, platforms, or legs bearing on the decking and made watertight. The 8-inch (203-mm) raised height shall be measured from the top of the installed roofing assembly to the top of the curbs, platforms, or legs.

Exception: Individual equipment units with a weight of 400 pounds (181 kg) or less may be supported on 8-inch legs (203-mm) bearing on the roof membrane if isolation bearing pads, or *approved* equivalent isolation methods, are provided between the bearing points and the roof and the roof warranty is not affected by the installation of the units on the roof membrane. All methods must meet manufacturers requirements and recommendations for the application being proposed.

Section 1503.6 Exterior wall finishes is added as follows:

1503.6 Exterior wall finishes. Exterior wall finishes on walls extending above the roof shall terminate a minimum of 8 inches (203 mm) above the finished roofing of a flat roof and 2 inches (50.8 mm) above shingle, shake and tile roofs.

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6. Electric resistance equipment where not less than 100 percent of the annual service water-heating requirement is provided by an *on-site renewable energy system* not used to meet any other provision of this code.
7. Water heating systems that serve end-uses that require water temperature of 141°F (55°C) or hotter.
8. Electric resistance storage water heating equipment in *buildings* where not less than 75% of the annual service water heating requirement is met by a solar thermal system.
9. *Electric resistance water heating in buildings* that comply with Section C407, Appendix SE, or Appendix PT.
10. Replacement of gas-fired storage water heaters or instantaneous water heaters that comply with section C503.4.1.

C404.11 Demand responsive water heating. Electric storage water heaters with rated water storage volume between 40 (150L) and 120 (450L) gallons and a nameplate input rating equal to or less than 12kW shall be provided with *demand responsive controls* that comply with ANSI/CTA-2045-B Level 1 and are also capable of initiating water heating to meet the temperature set point in response to a *demand response signal* or another equivalent *approved* standard.

Exceptions:

1. Water heaters that provide a hot water delivery temperature of 180°F (82°C) or greater
2. Water heaters that comply with Section IV, Part HLW or Section X of the ASME Boiler and Pressure Vessel Code
3. Water heaters that use 3-phase electric power

C404.12 Water heating equipment location. Where required by Section C405.15, water heaters shall be located in a space with the following characteristics:

1. Minimum dimensions of 3 feet by 3 feet by 7 feet high
2. Minimum volume of 760 cubic feet, or the equivalent of one 16-inch by 24-inch grill to a heated space and one 8-inch duct of no more than 10 feet in length for cool exhaust air.

Exceptions:

1. Electric storage water heaters with a rated storage volume of less than 20 gallons.
2. Instantaneous water heaters located within 10 feet of the point of use.
3. The space and ventilation requirements shall be permitted to be reduced to conform with the manufacturer's recommendations for a specific heat pump hot water heater that meets the requirements of Section C404. The specific heat pump water heater shall be identified on the construction documents.

SECTION C405

ELECTRICAL POWER AND LIGHTING SYSTEMS

Section C405.1 General is replaced as follows:

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C405.1 General. This section covers lighting system controls, the maximum lighting power for interior and exterior applications, and electrical energy consumption.

Section C405.1.1 Lighting for dwelling units and sleeping units replaced as follows:

C405.1.1 Lighting for dwelling units and sleeping units. All permanently installed luminaires in *dwelling units* and *sleeping units* shall be provided with lamps or light sources with an efficacy of not less than 65 lm/W.

Section C405.2 Lighting controls adds item 2.4 as follows:

2.4 Reducing lighting power in a uniform manner by no less than 10 percent when signaled by a *demand responsive control*.

Section C405.2.7 Exterior lighting controls, Exception 1 is replaced as follows:

1. Lighting for covered vehicle entrances and exits from buildings where required for eye adaption.

Section C405.3.2 Interior lighting power allowance

Section C405.3.2 Interior lighting power allowance, Table C405.3.2(1) Interior Lighting Power Allowances: Building Area Method is modified by deleting footnotes a, b, and c.

Section C405.4 Lighting for plant growth and maintenance is replaced as follows:

C405.4 Lighting for plant growth and maintenance. All non-LED lighting using replaceable lamps shall be installed with electronic ballasts. In addition, not less than 95 percent of the total Watts of lighting for areas used for plant growth and plant maintenance shall be provided by lighting having a photosynthetic photon efficacy of not less than 1.6 $\mu\text{mol}/\text{J}$ (luminaires), or 1.9 $\mu\text{mol}/\text{J}$ (lamps). Indoor agriculture facilities shall demonstrate lighting requirements in accordance with one of the following:

1. LED luminaires listed in the Design Lights Consortium's Horticultural Qualified Products List (QPL), <https://www.designlights.org/horticultural-lighting/search>.
2. Double-ended high-pressure sodium (HPS) lamps with efficacies of 1.9 $\mu\text{mol}/\text{J}$ or greater, used with any reflector and ballast combination.
3. For lamps or luminaires not included in 1) or 2) above, compliance with the efficacy requirements of this section must be demonstrated by either providing manufacturer's documentation indicating the luminaire or lamp efficacy or by submitting for review a third-party test report providing the lamps' or luminaires' photosynthetic photon efficacy (measured in $\mu\text{mol}/\text{J}$), generated by a facility accredited to the ANSI/ASABE S642, ANSI/IES LM-79, or ANSI/IES LM-51 standards.

Section C405.13. Electric vehicle (EV) supply equipment is added as follows:

C405.13 Electric Vehicle Supply Equipment. New parking facilities shall be provided with *electric vehicle charging infrastructure* in accordance with Sections C405.13.1 through C405.13.6.

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C405.13.1 Quantity. The number of required *EVSE Installed Spaces*, *EV Capable spaces* and *EV Ready spaces* shall be determined in accordance with this Section and Table C405.13.1 based on the total number of *automobile parking spaces* and shall be rounded up to the nearest whole number.

1. Where more than one parking facility is provided on a building site, the number of required *automobile parking spaces* required to have *electric vehicle charging infrastructure* shall be calculated separately for each parking facility.
2. Where one shared parking facility serves multiple building occupancies, the required number of spaces shall be determined proportionally based on the floor area of each building occupancy.
3. *EVSE Installed spaces* that exceed the minimum requirements of this section may be used to meet minimum requirements for *EV Ready Spaces* and *EV Capable spaces*.
4. Installed *EV ready spaces* that exceed the minimum requirements of this section may be used to meet minimum requirements for *EV Capable spaces*.
5. Requirements for a Group S-2 parking garage shall be determined by the occupancies served by that parking garage. Where new automobile spaces do not serve specific occupancies, the values for Group S-2 parking garage in Table C405.13.1 shall be used.
6. The number of *EVSE Installed Spaces* for Groups A, B, E, I, M and S-2 Occupancies may be reduced by up to ten per *DCFC EVSE* provided that the *building* includes not less than one parking space equipped with a *DCFC EVSE* and not less than one *EV Ready space*. A maximum of fifty spaces may be reduced from the total number of *EVSE Installed spaces*.

Exception: Parking facilities serving occupancies other than R-2 occupancies with fewer than 10 automobile parking spaces.

Table C405.13.1 REQUIRED EV CHARGING INFRASTRUCTURE

OCCUPANCY	EVSE INSTALLED SPACES	EV READY SPACES	EV CAPABLE SPACES
GROUP A, B, E, M	10%	5%	10%
GROUP I	5%	0%	5%
GROUP R-1 AND R-2 ^a	15%	5%	40%
GROUP R-3 AND R-4	2%	0%	5%
GROUP S-2 parking garages	10%	5%	0%

^a Where all parking spaces serving R-2 occupancies are *EV ready spaces*, requirements for *EVSE spaces* for R-2 occupancies shall not apply.

C405.13.2 EV Capable Spaces. Each *EV Capable space* used to meet the requirements of Section C405.13.1 shall comply with all the following:

1. A continuous raceway or cable assembly shall be installed between an enclosure or outlet located within 3 feet (914 mm) of the *EV Capable space* and future or existing panelboard or switchboard location(s).
2. Installed raceway or cable assembly shall be sized and rated to supply a minimum circuit capacity in accordance with C405.13.5.

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3. The electrical equipment room shall be provided with dedicated space for the future installation of the electrical distribution equipment required to serve the *EVSE*. Such equipment may include service switchgear, distribution panelboards, and transformers.
4. The electrical enclosure or outlet and the electrical distribution equipment directory shall be marked: "For future electric vehicle supply equipment (EVSE)."

C405.13.3 EV Ready Spaces. Each branch circuit serving *EV Ready Spaces* used to meet the requirements of Section C405.13.1 shall comply with all the following:

1. Terminate at an outlet or enclosure, located within 3 feet (914 mm) of each *EV Ready space* it serves.
2. Have a minimum circuit capacity in accordance with C405.13.5.
3. The panelboard or other electrical distribution equipment directory shall designate the branch circuit as "For electric vehicle supply equipment (EVSE)" and the outlet or enclosure shall be marked "For electric vehicle supply equipment (EVSE)."

C405.13.4 EVSE Installed Spaces. An installed *EVSE* with multiple output connections shall be permitted to serve multiple *EVSE Installed Spaces*. Each *EVSE* installed to meet the requirements of Section C405.13.1, serving either a single *EVSE Installed space* or multiple *EVSE Installed spaces*, shall comply with all the following:

1. Have a minimum circuit capacity in accordance with C405.13.5.
2. Have a minimum charging rate in accordance with C405.13.4.1.
3. Be located within 3 feet (914 mm) of each *EVSE Installed space* it serves.
4. Be installed in accordance with Section C405.13.6.

C405.13.4.1 EVSE Minimum Charging Rate. Each installed *EVSE* shall comply with one of the following:

1. Be capable of charging at a minimum rate of 6.2 kVA (208/240V).
2. For R-1 and R-2 Occupancies, where serving multiple *EVSE Installed spaces* and controlled by an energy management system providing load management, be capable of simultaneously charging each *EVSE Installed space* at a minimum rate of no less than 3.3 kVA.
3. Where serving *EVSE Installed spaces* allowed to have a minimum circuit capacity of 2.7 kVA in accordance with C405.13.5.1 and controlled by an energy management system providing load management, be capable of simultaneously charging each *EVSE space* at a minimum rate of no less than 2.1 kVA.
4. For purposes of this section *EVSE* that are not *DCFC EVSE* shall be deemed to have a *power factor* of 1.

C405.13.5 Circuit Capacity. The capacity of electrical infrastructure serving each *EV Ready space* and *EVSE Installed space* shall comply with one of the following:

1. A branch circuit shall have a rated capacity not less than 8.3 kVA for each *EV Ready space* or *EVSE Installed space* it serves.
2. The requirements of C405.13.5.1.

C405.13.5.1 Circuit Capacity Management. The capacity of each branch circuit serving multiple *EVSE Installed Spaces* or *EV Ready Spaces* designed to be controlled

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by an energy management system providing load management in accordance with NFPA 70, shall comply with one of the following:

- a. Have a minimum capacity of 4.1 kVA per space.
- b. Have a minimum capacity of 2.7 kVA per space when serving *EV ready spaces* or *EVSE spaces* for a building site when all (100%) of the automobile parking spaces are designed to be *EV ready* or *EVSE spaces*.

C405.13.6 EVSE Installation. *EVSE* shall be installed in accordance with NFPA 70 and shall be listed and labeled in accordance with UL 2202 or UL 2594. *EVSE* shall be accessible or universal in accordance with Denver Commercial Building Code Sections 1106 or 1107, respectively.

Section C405.14. Solar access requirement and its subsections are added as follows:

C405.14 Solar access requirement. All newly constructed buildings of Occupancy Group A, B, E, M, R1 and R2 shall designate a dedicated solar-ready zone on the building plans that meets the specifications of Appendix CB. This zone shall be located on the roof or overhang of the building or on the roof or overhang of another structure located within 250 feet of the building on the building premise or on covered parking installed with the building project.

Exceptions:

1. Buildings with six or more stories above grade.
2. Buildings that already have a PV system installed onsite with a DC capacity of the greater of 1 W/ft² of roof area or 5 kW.

C405.14.1 Shading and obstructions subsections are added as follows.

C405.14.1.1. No obstructions, including but not limited to, vents, chimneys, architectural features, and roof mounted equipment, shall be located in or impact the solar zone.

C405.14.1.2. Any obstruction, located on the roof or any other part of the building that projects above a solar zone shall be located two times the height of the obstruction from the closest edge of the solar zone.

Exceptions:

1. Any roof obstruction, located on the roof or any other part of the building, that is oriented north of all points on the solar zone.
2. Equipment designated for solar water heating systems, if present, are permitted to be installed in the solar zone.

C405.14.2 Structural design loads on construction documents. For areas of the roof designated as solar zone, the structural design loads for roof dead load and roof live load shall be clearly indicated on the construction documents.

Section C405.15 Additional electric infrastructure and its subsection are added as follows:

C405.15 Additional electric infrastructure. The following fossil fuel appliances and equipment or connections serving new *buildings* shall be installed in accordance with this section and Section C404.12.

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1. Water heating equipment with an input capacity less than 300,000 Btu/h
2. Warm air furnaces serving spaces without space cooling.
3. Fireplaces, ranges, and stoves not defined as *commercial cooking appliances*.
4. *Commercial cooking appliances*
5. Fossil Fuel appliances and equipment serving *dwelling units* or *sleeping units*

C405.15.1 Electric infrastructure. Fossil fuel appliances and equipment listed in Section C405.15 shall be provided with a junction box located within the same space of the fossil fuel appliance or equipment that is connected to an electrical panel by continuous raceways that meet the following requirements. Said junction box shall allow for the appliance or equipment to be installed within the same place of the fossil fuel equipment that it replaces:

1. The junction box, raceway, and bus bar in the electric panel and conductors serving the electric panel shall be sized to accommodate electric equipment sized to serve the same load as the fossil fuel appliance or equipment.
2. The panel shall have reserved physical space for a three-pole circuit breaker.
3. The junction box and electrical panel directory entry for the dedicated circuit breaker space shall have labels stating, "For future electric equipment".

SECTION C406

ADDITIONAL EFFICIENCY PACKAGE OPTIONS

Section C406.1 is modified as follows, subordinate sections to remain.

C406.1 Additional energy efficiency credit requirements. New buildings shall receive credits from Table C406.1(1) in accordance with the credit requirements in Table C406.1(2) based on the use group of the building and from credit calculations as specified in relevant subsections of C406. Where a building contains multiple use groups, credits from each use group shall be weighted by floor area of each group to determine the weighted average building credit. Credits from the tables or calculation shall be received where a building complies with one or more of the following:

12. Where not required by Section C403.2.4, include electric space heating in accordance with Section C406.13.
13. Cold climate heat pump in accordance with Section C406.14.
14. Where not required by Section C404.10, include electric water heating in accordance with Section C406.15.
15. Demand responsive controls in accordance with Section C406.16.
16. HVAC system fan power in accordance with Section C406.17.

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(2) The EEOP Fund will be utilized as follows:

The Town of Avon EEOP Fund will be managed by the Town Manager, or their designee and such designee may be determined by Resolution of the Town Council of Avon. Expenditures of EEOP funds shall be used for the following purposes:

- (a) To provide educational materials and outreach for Town of Avon residents, businesses, employees and building owners including but not necessarily limited to printed guides, efficient building educational events, a webpage with available resources, links, and information.
- (b) Planning, design and implementation of renewable energy generation projects.
- (c) Providing a community grant and/or rebate program for energy efficiency enhancements or renewable energy generation projects.
- (d) Funding other resources and administrative costs associated with green building and environmental sustainability oriented efforts.
- (e) Special consideration is given to projects that positively affect occupants of local affordable housing or low income residents in Town of Avon.

15.27.40 Severability Provision.

Should any provision of the EEOP be declared by a court of competent jurisdiction in any final judgment to be invalid, unlawful or unenforceable for any reason, such offending provision shall be deemed deleted and the remaining provisions of such Code shall remain in full force and effect.

CHAPTER 15.28 Electrical Vehicle Charging Standards

15.28.010 Intent and purpose.

The purpose of the Electric Vehicle (EV) Charging Standards is to accommodate the growing need for electric vehicles.

15.28.020 Definitions.

As used in this Chapter, the following terms shall have the meaning indicated:

Electric Vehicle Supply Equipment (EVSE) Installed means the installation of a Level 2 EV charging station.

EV Capable means the installation of electrical panel capacity with a dedicated branch circuit and a continuous raceway from the panel to the future EV parking spot(s).

EV Ready means the installation of electrical panel capacity and raceway with conduit to terminate in a junction box or 240-volt charging outlet.

Level 2 means an EVSE capable of charging at 30 amperes or higher at 208 or 240 VAC. An EVSE capable of simultaneously charging at 30 amperes for each of two vehicles shall be counted as two Level 2 EVSE.

Level 3 means an EVSE with technology known as DC fast charging, charging through a 480V direct current plug.

15.28.030 Applicability.

The standards in this Chapter apply to all new residential R3 (single family, duplex, townhouse) and all new non-residential, mixed use, and/or multi-family exterior energy uses.

Town of Avon Regulations

15.28.040 Electric vehicle charging.

The building shall be provided with electric vehicle charging in accordance with this section and the National Electrical Code. When parking spaces are added or modified without an increase in building size, only the new parking spaces are subject to this requirement

- (a) R3 occupancies. Structures shall be provided with EV charging in accordance with Table 1. Calculations for the number of spaces shall be rounded up to the nearest whole number. All Electric Vehicle Supply Equipment (EVSE) Installed, EV Ready and EV Capable Spaces are to be included in the calculation for the number of minimum vehicle spaces required, as provided by the applicable article of the Avon Development Code as amended below.

Table 1. Residential EV Requirements

	Number of EV Capable Spaces	Number of EVSE Ready Spaces	Number of EVSE Installed Spaces
1 to 6 spaces	None	1	None
7 or more spaces	15% of spaces	10% of spaces	5% of spaces

- (b) All non-residential and mixed-use occupancy groups. Structures shall be provided with EV charging in accordance with Table 2. Calculations for the number of spaces shall be rounded up to the nearest whole number. All EVSE Installed, EV Ready and EV Capable Spaces are to be included in the calculation for the number of minimum vehicle spaces required, as provided by the Avon Development Code.

Table 2. Non-residential and Mixed-Use EV Requirements

	Number of EV Capable Spaces	Number of EV Ready Spaces	Number of EVSE Installed Spaces
1 space	None	1	None
2 to 9 spaces	None	1	1
10 or more spaces	15% of spaces	10% of spaces	5% of spaces
Note: The number of electric vehicle supply equipment installed spaces may be reduced by up to five provided that the building includes not less than one parking space equipped with an EV Level III and not less than one electric vehicle ready space			

15.28.050. Submittal requirements.

Construction documents shall designate all EV capable spaces, EV ready spaces EVSE spaces, and EV supply equipment installed spaces, and indicate the locations of conduit, sizing, and termination points. The circuit breakers or circuit breaker spaces reserved for the EV capable spaces, EV ready spaces, and EV supply equipment installed spaces shall be clearly identified in the load center. The conduit for EV capable spaces shall be clearly identified at both the load center and the termination point at the parking space.

15.28.060. Accessible parking.

Where new accessible parking is provided, at least one accessible parking space shall be EV installed.

CHAPTER 15.30 Outdoor Lighting Standards

15.30.010 Intent and purpose.

- (a) The purpose of this Chapter is to reduce offensive lighting sources and reduce light trespass beyond property lines, including unnecessary upward lighting. The Town is experiencing a significant increase in the use of

Sec. 18-9-10. - Purpose.

The intent of this Article is to ensure energy conservation and sustainable building practice within the Town. All new, heated structures shall comply with the terms of this Article.

(Ord. No. 13, § 1(Exh. A), 8-2-2022)

Sec. 18-9-20. - Definitions.

For purposes of this Article, the use of a plural form shall not necessarily imply that more than the singular is suggested, condoned or allowed, and the following terms shall have the meanings herein given:

All Electric Building. A building that contains no combustion equipment or plumbing for combustion equipment serving space heating (with the exception of solid fuel-burning devices that meet requirements in Article 8 of this Chapter), water heating (including pools and spas), cooking appliances (including barbeques but excluding Commercial Food Heat-processing Equipment), and clothes drying, within the building or building property lines, and instead uses electric heating appliances for service.

Combustion Equipment. Any equipment or appliance used for space heating, service water heating, cooking, clothes drying and/or lighting that uses fuel gas or fuel oil.

Commercial Food Heat-processing Equipment. Equipment used in a food establishment for heat-processing food or utensils and that produces grease vapors, steam, fumes, smoke, or odors that are required to be removed through a local exhaust ventilation system.

DC Fast Charger ("DCFC"). EVSE that provides at least fifty (50) kilowatts of direct current electrical power for charging a plug-in electric vehicle through a connector based on fast charging equipment standards and which is approved for installation for that purpose under the National Electric Code through an Underwriters Laboratories Certification or an equivalent certifying organization.

Decorative Appliance. A device utilizing natural gas as a fuel designed to appear as a real fireplace and shall be a direct vent appliance with no opening to the interior of the structure.

Electric Heating Appliance. A device that produces heat energy to create a warm environment by the application of electric power to resistance elements, refrigerant compressors, or dissimilar material junctions.

Electric Vehicle Supply Equipment (EVSE). The conductors—including the ungrounded, grounded, and equipment grounding conductors—and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy

between the premises wiring and the electric vehicle.

Electric Vehicle (EV) Ready Space. Parking spaces that have full circuit installations of 208/240-volt (or greater), 40-ampere (or greater) panel capacity, raceway wiring, receptacle and circuit overprotection devices. This strategy provides all required electrical hardware for the future installation of EV Supply Equipment (EVSE). Anticipating the use of dual head EVSE, the same circuit may be used to support charging in adjacent EV-Ready spaces.

Fuel Gas. Agas that is natural, manufactured, liquefied petroleum, or a mixture of these.

Home Energy Assessment. An assessment includes a home visit by a building performance institute (BPI) certified energy analyst that results in a report that analyzes the current condition and energy usage of a home and provides a list of recommended improvements.

Home Energy Rating System (HERS) certificate. A certificate generated by an accredited home energy rating system program provider.

Level II EVSE. An EVSE capable of charging at 30 amperes or higher at 208 or 240 VAC.

R Value. A term used to describe the thermal transmission of heat through a combination of insulating components in a wall, roof or foundation assembly.

Renovation. To improve or repair a structure and may include preservation and rehabilitation.

Solar Ready Components. Building construction components that facilitate and optimize the installation of a rooftop solar photovoltaic (PV) system at some point after the building has been constructed, including installation of electrical conduit from electrical panel space to the solar panel roof area.

Sustainable building practices. Building practices that accommodate increased population by means that reduce overall per-capita energy usage.

U Value. The reciprocal of R value. The rate of nonsolar heat flow through a building.

(Ord. No. 13, § 1(Exh. A), 8-2-2022)

Sec. 18-9-30. - Utilization of Home Energy Rating System (HERS).

All new, heated residential structures shall become qualified as a Department of Energy Zero Energy Ready Home (as amended by the Department of Energy) by meeting the national program requirements, becoming verified and field-tested in accordance with HERS standards by an approved verifier, and meeting all applicable codes. Residential construction may meet the requirements of either the performance path or the prescriptive path as defined in the Zero Energy Ready Home Requirements to qualify.

(Ord. No. 13, § 1(Exh. A), 8-2-2022; Ord. No. 25, § 1(Exh. A), 12-19-2022)

Sec. 18-9-40. - International Energy Conservation Code.

- (a) Adoption. The International Energy Conservation Code ("IECC"), 2021 edition, without appendices, as published by the International Code Council, Inc. 4051 West Flossmoor Road, Country Club Hills, Illinois 60478 is hereby adopted by reference thereto and incorporated into and made part of the Crested Butte Municipal Code to have the same force and effect as if set forth herein in every particular pursuant to Title 31, Article 16, Part 2, C.R.S.

The subject matter of the adopted code includes regulating and governing the minimum energy conservation requirements as herein provided; providing for the issuance of permits and collection of fees (as appropriate) therefor; and each and all of the regulations, provisions, penalties, conditions and terms of said code on file in the office of the Town are hereby referred to, adopted and made as part hereof, as if fully set out herein.

- (b) Amendments. The code adoption herein is modified by the following amendments:

- (8) Section C102.1.1 is amended to read as follows:

Section C102.1.1 - Above Code Programs. The code official or other authority having jurisdiction shall be permitted to deem a national, state or local energy efficiency program as exceeding the energy efficiency required by this code. Buildings approved in writing by such an energy efficiency program shall be considered to be in compliance with this code. The requirements identified in Table C407.2 shall be met. New commercial buildings are also governed by Article 1.5 of Chapter 18 of the Crested Butte Town Code (International Green Construction Code).

- (5) IECC Section C401.2 is amended to read as follows:

C401.2 -Application. Commercial buildings shall comply with Section C401.2.1 or C401.2.2, and shall comply with C401.2.3. A compliance method other than the Prescriptive Compliance Option in C401.2.1. shall be pre-approved by the building official.

- (6) IECC Section C401.2 is amended by adding a new subsection to read as follows:

C401.2.3. Commercial Electric Requirements.

C401.2.3.1. All Electric. Commercial buildings shall be All Electric Buildings.

C401.2.3.2. EV Parking. Commercial buildings and accessory structures with two or more parking spaces shall provide one Level II EVSE. Additionally, ten percent (10%) of total required parking spaces (rounded up) shall be Electric Vehicle Ready Spaces, and one DC Fast Charger (25 kW) shall be provided for 5 or more required parking spaces.

C401.2.3.3. Solar Requirements.

C401.2.3.3.1 - Buildings that are less than 5,000 square feet. A commercial building that is less than 5,000 square feet shall install Solar Ready Components.

C401.2.3.3.2 - Buildings that are 5,000 square feet or larger. A commercial building that is 5,000 square feet or larger shall install solar PV panels to roof(s) per Sec 18-1.5-30(5). Solar requirements shall not exceed any Gunnison County Electric Association net metering limitation in place when submitting a building permit application.

(7) IECC Chapter 5 [CE] is deleted in its entirety and replaced with a new section to read as follows:

Chapter 5 [CE]. Commercial Existing Buildings. The alteration, repair, addition and change of occupancy of existing buildings and structures shall comply with the requirements of the 2021 International Existing Building Code (IEBC) as amended in Section 18-2.5-30 of the Town Code.

(8) IECC Section R401.2 is amended to read as follows:

R401.2 - Application. Residential buildings shall comply with Sections R401.2.5 and R401.2.6 and either Sections R401.2.1, R401.2.2, R401.2.3 or R401.2.4.

(9) IECC Section R401.2 is amended to add a new subsection R401.2.6 to read as follows:

R401.2.6. Residential Electric Requirements.

R401.2.6.1. All Electric. Residential buildings shall be All Electric Buildings.

R401.2.6.2. EV Parking. All residential buildings or garages shall provide one Electric Vehicle Ready Space per dwelling unit.

R401.2.6.3. - Zero Energy Ready Home. All new heated buildings shall become qualified as a Department of Energy Zero Energy Ready Home (as amended by the Department of Energy) by meeting the national program requirements specified in the program, becoming verified and field-tested in accordance with HERS standards by an approved verifier, and meeting all applicable codes. Residential construction may meet the requirements of either the performance path or the prescriptive path to qualify.

(10) IECC Section R405.1 is amended to read as follows:

R405.1 - Scope. This section establishes criteria for compliance using total building performance analysis. Such analysis shall include heating, cooling, mechanical ventilation and service water-heating energy only. The utilization of this section shall be specifically approved by the Building Official prior to submittal of design documents.

(11) IECC Chapter 5 [RE] is deleted in its entirety and replaced with a new section to read as follows:

Chapter 5 [RE]. Residential Existing Buildings. The alteration, repair, addition and change of occupancy of existing buildings and structures shall comply with the requirements of the 2021 International Existing Building Code (IEBC).

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§ 10-1-1 CODES ADOPTED BY REFERENCE.

(A) The following codes are hereby adopted by reference, as amended:

- (1) *Building Code.* The International Building Code, 2021 edition, including appendices B, E, G, J, K and O, published by the International Code Council, 4051 Flossmoor Road, Country Club Hills, IL 60478-5975;
- (2) *Residential Code.* Chapters 1 through 10 of the International Residential Code, 2021 edition, including appendices AF, AJ and AV, published by the International Code Council, 4051 Flossmoor Road, Country Club Hills, IL 60478-5975;
- (3) *Fire Code.* The International Fire Code, 2021 edition, including appendices A, B, C, D, E, G, H, I, J and N, published by the International Code Council, 4051 Flossmoor Road, Country Club Hills, IL 60478-5975;
- (4) *Energy Code.* The International Energy Conservation Code, 2021 edition, including appendices CA and RA, published by the International Code Council, 4051 Flossmoor Road, Country Club Hills, IL 60478-5975;
- (5) *Plumbing Code.* The International Plumbing Code, 2021 edition, including appendices C and F, published by the International Code Council, 4051 Flossmoor Road, Country Club Hills, IL 60478-5975;
- (6) *Fuel Gas Code.* The International Fuel Gas Code, 2021 edition, including appendix E, published by the International Code Council, 4051 Flossmoor Road, Country Club Hills, IL 60478-5975;
- (7) *Mechanical Code.* The International Mechanical Code, 2021 edition, including appendix C, published by the International Code Council, 4051 Flossmoor Road, Country Club Hills, IL 60478-5975;
- (8) *Existing Building Code.* The International Existing Building Code, 2021 edition, including appendix D, published by the International Code Council, 4051 Flossmoor Road, Country Club Hills, IL 60478-5975;
- (9) *Electrical Code.* NFPA 70, the National Electrical Code, 2020 edition, published by the National Fire Protection Association, Inc., 1 Batterymarch Park, Quincy, MA 02269; and
- (10) *Abatement Code.* The Uniform Code for the Abatement of Dangerous Buildings, 1997 edition, published by the International Conference of Building Officials, 5360 Workman Mill Road, Whittier, CA 90601-2298.

(B) Copies shall be available for inspection at the office of the Town Clerk during regular business hours and can be viewed online at www.iccsafe.org and www.vailgov.com.

(Ord. 8(2022) § 1)

§ 10-1-5 AMENDMENTS TO THE INTERNATIONAL ENERGY CONSERVATION CODE.

The following amendments are hereby made to the International Energy Conservation Code, 2021 edition:

Section C101.1 Title: Section C101.1 is amended to read as follows:

“**C101.1 Title.** These regulations shall be known as the ‘Vail Commercial Energy Code’.”

Section C202 Definitions: Section C202 is amended by the addition of the following definitions:

“**EV-CAPABLE PARKING SPACE.** A parking space for an electric vehicle (EV) with the electrical panel capacity and conduit installed to support future implementation of EV charging with a 208/240-volt (or greater), 40-ampere (or greater) circuit, and a dedicated, labeled space in the electrical panel.

EV-INSTALLED PARKING SPACE. A parking space for an electric vehicle (EV) that has the EV supply equipment (EVSE) fully installed from the electrical panel to the parking space, including charging equipment.”

Section C405.13: Section C405.13 is added as follows:

“**C405.13 EV charging.** EV charging capabilities and required parking spaces shall be determined according to Table C405.13.

Exception: A request for a reduction in the number of required EV-installed parking spaces can be made if DC fast charging stations are installed to fulfill the requirements of this subsection. An EV parking study must be submitted to support the request and based on the findings of the analysis or study, the building official is authorized to approve a reduction in the number of required EV-installed parking spaces.”

Table C405.13 EV Parking Spaces: Table C405.13 is added as follows:

“TABLE C405.13 EV PARKING SPACES^a

Property Type	Space Requirements
All commercial properties (incl. multi-family developments)	5% EV-installed parking spaces + 50% EV-capable parking spaces

a. These provisions are for new construction only.”

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Section R101.1 Title: Section R101.1 is amended to read as follows:

R101.1 Title. These regulations shall be known as the 'Vail Residential Energy Code'."

Section R202 Definitions: Section R202 is amended by the addition of the following definitions:

EV-CAPABLE PARKING SPACE. An EV parking space with the electrical panel capacity and conduit installed to support future implementation of EV charging with a 208/240-volt (or greater), 40-ampere (or greater) circuit, and a dedicated, labeled space in the electrical panel.

SOLAR-READY ZONE. A section of the roof or building overhang designated and reserved for the future installation of a solar photovoltaic or solar thermal system."

Table R402.1.3: Table R402.1.3 is amended by deleting footnote i.

R403.7 Equipment sizing and efficiency rating: Section R403.7 is amended to read as follows:

R403.7 Equipment sizing and efficiency rating. Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other heating and cooling calculation methodologies. All new heating and cooling equipment shall have an efficiency rating of 92% AFUE or better.

Exception: The replacement, alteration or repair of an existing system."

Section R403.13 Fire pits: Section R403.13 is added to read as follows:

R403.13 Fire pits. Gas fueled fire pits and other outdoor fireplaces and appliances require automatic shut-off controls with a maximum 60-minute timer."

R403.14 Solar-ready zone: Section R403.14 is added as follows:

R403.14 Solar-ready zone. New one- and two-family dwellings and townhouses with not less than 600 sq/ft (55.74 m²) of roof area oriented between 110 degrees and 270 degrees of true north, shall comply with Sections R403.14.1-R403.7.

Exceptions:

1. A new residential building with a permanently installed on-site renewable energy system.
2. A building where all areas of the roof that would otherwise meet the requirements of Section R403.14 are in full or partial shade for more than 70% of daylight hours annually.

R403.14.1 Construction document requirements for solar-ready zone. Construction documents shall indicate the solar-ready zone.

R403.14.2 Solar-ready zone. The solar-ready zone shall be not less than 300 sq/ft (27.87 m²) exclusive of mandatory access or setback areas as required by the Vail Fire Code. New townhouses of 3 stories or less in height above grade plane and with a total floor area less than or equal to 2,000 sq/ft (185.8 m²) per dwelling shall have a solar-ready zone area of not less than 150 sq/ft (13.94 m²). The solar-ready zone shall be composed of areas not less than 5 feet (1524 mm) in width and not less than 80 sq/ft (7.44 m²) exclusive of access or set-back areas as required by the Vail Fire Code.

R403.14.3 Obstructions. Solar-ready zones shall be free from obstructions, including but not limited to vents, chimneys, and other roof-mounted equipment.

R403.14.4 Capped roof penetration sleeve. A capped roof penetration sleeve shall be provided adjacent to all solar-ready zones located on roofs. The capped roof penetration sleeve shall be sized to accommodate the future photovoltaic system conduit and shall have an inside diameter of not less than 1-1/2 inches (38 mm).

R403.14.5 Roof load documentation. The structural design loads for roof dead load and roof live load shall be clearly indicated on the construction documents.

R403.14.6 Interconnection pathway. Construction documents shall indicate pathways for routing of conduit or plumbing from the solar-ready zone to the electrical service panel or service hot water system.

R403.14.7 Electrical service reserved space. The main electrical service panel shall have a reserved space to allow installation of a dual pole circuit breaker for future solar electric installation and shall be labeled "For Future Solar Electric". The reserved space shall be positioned at the opposite (load) end from the input feeder location or main circuit location.

R403.14.8 Certificate. A permanent certificate, indicating the solar-ready zone and other requirements of this section, shall be posted near the electrical distribution panel, water heater or other conspicuous location by the builder or registered design professional."

R404.4 EV charging: Section R404.4 is added as follows:

R404.4 EV charging. EV charging capabilities and required parking spaces shall be determined according to Table R404.4."

Table R404.4 Ev Parking Spaces: Table R404.4 is added as follows:

TABLE R404.4 EV PARKING SPACES^a

Town of Vail Regulations

Property Type	Space Requirements
One- and two-family dwellings, townhouses	1 EV-capable space per dwelling

a. These provisions are for new construction only.”

R404.5 Electric readiness: Section R404.5 is added as follows:

“**R404.5 Electric readiness.** Systems using gas or propane to serve individual dwelling units shall comply with R404.5.1 and R404.5.2.

R404.5.1 Receptacle required. A dedicated electrical receptacle connected to the electric panel with an appropriately sized branch circuit shall be provided within 36 inches (914 mm) of each gas or propane water heater, clothes dryer, and conventional cooking appliance.

R404.5.2 Receptacle identification. The branch circuits within the electric panel serving the future electric appliances shall be appropriately labeled for their intended use.”

(Ord. 8(2022) § 1)

Climate Action Collaborate Recommended Regs

COMMERCIAL APPENDIX CD

This is the EV-ready appendix for commercial and commercial multifamily (four stories and greater).

26. Appendix CD is added as follows:

APPENDIX CD EV READINESS - COMMERCIAL

CD101. Purpose and intent. The purpose and intent of this Appendix CD is to accommodate the growing need for EV charging infrastructure. Including these measures during initial commercial construction substantially reduces the costs and difficulty of installing EV infrastructure at a later date.

CD102. Applicability. This Appendix CD shall apply to all new commercial construction to which the current International Building Code applies.

Section CD103. Definitions.

AUTOMOBILE PARKING SPACE. A space within a building or private or public parking lot, exclusive of driveways, ramps, columns, office, and work areas, for the parking of an automobile.

DIRECT CURRENT FAST CHARGING (DCFC) EVSE: EV power transfer infrastructure capable of fast charging on a 100A or higher 480VAC three-phase branch circuit. AC power is converted into a controlled DC voltage and current within the *EVSE* that will then directly charge the *electric vehicle*.

EV LOAD MANAGEMENT SYSTEM: A system designed to allocate charging capacity among multiple *EVSE* and that complies with the current National Electric Code.

ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood *electric vehicles*, and electric motorcycles, primarily powered by an electric motor that draws current from an electric source.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). Equipment for plug-in power transfer including the ungrounded, grounded, and equipment grounding conductors, and the *electric vehicle* connectors, attachment plugs, personal protection system and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the *electric vehicle*.

ELECTRIC VEHICLE SUPPLY EQUIPMENT INSTALLED SPACE (EVSE space). An automobile parking space that is provided with a dedicated *EVSE* connection.

ELECTRIC VEHICLE CAPABLE SPACE (EV CAPABLE SPACE). A designated automobile parking space that is provided with electrical infrastructure, such as, but not limited to, raceways, cables, electrical capacity, and panelboard or other electrical distribution equipment space, necessary for the future installation of an *EVSE*.

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ELECTRIC VEHICLE READY SPACE (EV READY SPACE). An automobile parking space that is provided with a branch circuit and a ground fault circuit interrupter (GFCI/GFI) outlet, junction box, or receptacle, that will support an installed *EVSE*.

UNIVERSAL VEHICLE CHARGING STATION. A charging station installed in a parking space for a minimum vehicle width of 120 inches (3048 mm) with 36 inch access aisles (915 mm) on each side.

CD104 Electric vehicle power transfer infrastructure. New parking facilities shall be provided with *electric vehicle* power transfer infrastructure in compliance with Sections CD104.1 through CD104.6, CD105, and CD106.

CD104.1 Quantity. The number of required *EVSE spaces*, *EV ready spaces*, and *EV capable spaces* shall be determined in accordance with this Section and Table CD104.1 based on the total number of *automobile parking spaces* and shall be rounded up to the nearest whole number. For multifamily buildings, the Table requirements shall be based on the total number of dwelling units or the total number of *automobile parking spaces*, whichever is less.

1. Where more than one parking facility is provided on a building site, the number of required *automobile parking spaces* required to have EV power transfer infrastructure shall be calculated separately for each parking facility.
2. Where one shared parking facility serves multiple building occupancies, the required number of spaces shall be determined proportionally based on the floor area of each building occupancy.
3. Installed *EVSE spaces* that exceed the minimum requirements of this section may be used to meet minimum requirements for *EV ready spaces* and *EV capable spaces*.
4. Installed *EV ready spaces* that exceed the minimum requirements of this section may be used to meet minimum requirements for *EV capable spaces*.
5. Where the number of *EV ready spaces* allocated for multifamily occupancies is equal to the number of dwelling units or to the number of *automobile parking spaces*, whichever is less, requirements for *EVSE spaces* shall not apply.
6. In multifamily complexes that contain multiple buildings, required EV spaces shall be dispersed throughout parking areas so that each building has access to a similar number of spaces per dwelling unit.
7. Direct Current Fast Charging. The number of *EVSE spaces* may be reduced by up to ten per *DCFC EVSE* provided that the building includes not less than one parking space equipped with a *DCFC EVSE* and not less than one *EV ready space*. A maximum of fifty spaces may be reduced from the total number of *EVSE spaces*.

Exception: Parking facilities, serving occupancies other than multifamily, with fewer than 10 *automobile parking spaces*.

**TABLE CD104.1
REQUIRED EV POWER TRANSFER INFRASTRUCTURE**

BUILDING TYPE	MINIMUM EV INSTALLED SPACES	MINIMUM EV READY SPACES	MINIMUM EV CAPABLE SPACES
Multifamily ^a	5%	10%	40%
All Other Commercial	5%	0%	40%

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a. Where all (100%) parking serving multifamily are EV ready spaces, requirements for *EVSE* spaces shall not apply.

CD104.2 EV capable spaces. Each *EV capable space* used to meet the requirements of Section CD104.1 shall comply with all of the following:

1. A continuous raceway or cable assembly shall be installed between an enclosure or outlet located within 3 feet (914 mm) of the *EV capable space* and a suitable panelboard or other onsite electrical distribution equipment.
2. Installed raceway or cable assembly shall be sized and rated to supply a minimum circuit capacity in accordance with CD104.5
3. The electrical distribution equipment to which the raceway or cable assembly connects shall have sufficient dedicated space and spare electrical capacity for a 2-pole circuit breaker or set of fuses.
4. The electrical enclosure or outlet and the electrical distribution equipment directory shall be marked: "For future electric vehicle supply equipment (EVSE)."
5. Reserved capacity shall be no less than 4.1 kVA (20A 208/240V) for each *EV capable space*.

CD104.3 EV ready spaces. Each branch circuit serving *EV ready spaces* used to meet the requirements of Section CD104.1 shall comply with all of the following:

1. Terminate at an outlet or enclosure, located within 3 feet (914 mm) of each *EV ready space* it serves.
2. Have a minimum circuit capacity in accordance with CD104.5.
3. Branch circuit on the panelboard or other electrical distribution equipment directory designated as "For electric vehicle supply equipment (EVSE)" and the outlet or enclosure marked "For electric vehicle supply equipment (EVSE)."

CD104.4 EVSE spaces. An installed *EVSE* with multiple output connections shall be permitted to serve multiple *EVSE spaces*. Each *EVSE* installed to meet the requirements of Section CD104.1, serving either a single *EVSE space* or multiple *EVSE spaces*, shall comply with all of the following:

1. Have a minimum circuit capacity in accordance with CD104.5.
2. Have a minimum charging rate in accordance with CD104.4.1.
3. Be located within 3 feet (914 mm) of each *EVSE space* it serves.
4. Be installed in accordance with Section CD104.6 and CD104.7.

CD104.4.1 EVSE minimum charging rate. Each installed *EVSE* shall comply with one of the following:

1. Be capable of charging at a minimum rate of 6.2 kVA (or 30A at 208/240V).
2. When serving multiple *EVSE spaces* and controlled by an energy management system providing load management, be capable of simultaneously charging each *EVSE space* at a minimum rate of no less than 3.3 kVA.
3. When serving *EVSE spaces* allowed to have a minimum circuit capacity of 2.7 kVA in accordance with CD104.5.1 and controlled by an energy management system providing load management, be capable of simultaneously charging each *EVSE space* at a minimum rate of no less than 2.1 kVA.

CD104.5 Circuit capacity. The capacity of electrical infrastructure serving each *EV capable space*, *EV ready space*, and *EVSE space* shall comply with one of the following:

1. A branch circuit with a rated capacity not less than 8.3 kVA (or 40A at 208/240V) for each *EV ready space* or *EVSE space* it serves.
2. The requirements of CD104.5.1.

Climate Action Collaborate Recommended Regs

CD104.5.1 Circuit capacity management. The capacity of each branch circuit serving multiple *EVSE spaces*, *EV ready spaces* or *EV capable spaces* designed to be controlled by an energy management system providing load management in accordance with NFPA 70, shall comply with one of the following:

1. Have a minimum capacity of 4.1 kVA per space.
2. Have a minimum capacity of 2.7 kVA per space when serving *EV ready spaces* or *EVSE spaces* for a building site where all (100%) of the automobile parking spaces are designed to be *EV ready* or *EVSE spaces*.

CD104.6 EVSE installation. *EVSE* shall be installed in accordance with NFPA 70 and shall be listed and labeled in accordance with UL 2202 or UL 2594.

CD104.7. EVSE ENERGY STAR. All *EVSE* shall be ENERGY STAR certified.

CD105. Universal vehicle charging stations. Where *electric vehicle* charging stations are provided for public use, or where *electric vehicle* charging stations are shared by multiple multifamily dwelling units, the number of universal vehicle charging stations shall be provided in accordance with Table CD104.1. When multiple stalls are required, access aisles may be shared.

**TABLE CD105.1
UNIVERSAL EV SPACE REQUIREMENTS**

TOTAL # OF EV CHARGING STATIONS	MINIMUM # OF UNIVERSAL VEHICLE CHARGING STATIONS
1 or more	25%

CD106. Identification. Construction documents shall designate all *EV capable spaces*, *EV ready spaces*, and *EVSE spaces* and indicate the locations of conduit and termination points serving them. The circuit breakers or circuit breaker spaces reserved for the *EV capable spaces*, *EV ready spaces*, and *EVSE spaces* shall be clearly identified in the panel board directory. The conduit for *EV capable spaces* shall be clearly identified at both the panel board and the termination point at the parking space.

RESIDENTIAL

27. Section R101.1 Title is retained in its entirety with the following amendments:

R101.1 Title. This code shall be known as the International Energy Conservation Code of [City/Town/County], and shall be cited as such. It is referred to herein as “this code” or “the IECC.”

This ensures fuel source, electric-ready, solar-ready, and EV ready are shown on the construction documents. Since some of these are new elements, this also helps with compliance.

28. Section R103.2 Information on construction documents, is amended by modifying item 6 and adding items 10, 11, and 12 as follows:

6. Mechanical and service water heating systems and equipment types, sizes, fuel source, and efficiencies.

Climate Action Collaborate Recommended Regs

APPENDIX RD EV READINESS - RESIDENTIAL

RD101. Purpose and intent. The purpose and intent of this Appendix RD is to accommodate the growing need for EV charging infrastructure, in particular meeting preferences for charging at home. Including these measures during initial construction substantially reduces the costs and difficulty of installing EV infrastructure at a later date.

RD102. Applicability. This Appendix RD shall apply to all new residential construction to which the International Residential Code applies.

RD103. Definitions.

AUTOMOBILE PARKING SPACE. A space within a *building* or private or public parking lot, exclusive of driveways, ramps, columns, office, and work areas, for the parking of an automobile.

DIRECT CURRENT FAST CHARGING (DCFC) EVSE: EV power transfer infrastructure capable of fast charging on a 100A or higher 480VAC three-phase branch circuit. AC power is converted into a controlled DC voltage and current within the *EVSE* that will then directly charge the *electric vehicle*.

EV LOAD MANAGEMENT SYSTEM: A system designed to allocate charging capacity among multiple *EVSE* and that complies with the current National Electric Code.

ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood *electric vehicles*, and electric motorcycles, primarily powered by an electric motor that draws current from an electric source.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). Equipment for plug-in power transfer including the ungrounded, grounded, and equipment grounding conductors, and the *electric vehicle* connectors, attachment plugs, personal protection system and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the *electric vehicle*.

ELECTRIC VEHICLE SUPPLY EQUIPMENT INSTALLED SPACE (EVSE space). An automobile parking space that is provided with a dedicated *EVSE* connection.

ELECTRIC VEHICLE CAPABLE SPACE (EV CAPABLE SPACE). A designated automobile parking space that is provided with electrical infrastructure, such as, but not limited to, raceways, cables, electrical capacity, and panelboard or other electrical distribution equipment space, necessary for the future installation of an *EVSE*.

ELECTRIC VEHICLE READY SPACE (EV READY SPACE). An automobile parking space that is provided with a branch circuit and receptacle that will support an installed *EVSE*.

UNIVERSAL VEHICLE CHARGING STATION. A charging station installed in a parking space for a minimum vehicle width of 120 inches (3048 mm) with 36 inch access aisles (915 mm) on each side.

RD104 One- and two- family dwellings and townhouses. One *EV ready* space shall be provided for each dwelling unit. The branch circuit shall be identified as *EV ready* in the service panel or subpanel directory, and the termination location shall be marked as *EV ready*.

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Exception: Dwelling units where no parking spaces are either required or provided.

RD105 Residential multifamily dwellings, 3-stories or less. New dwelling units for residential multifamily buildings, other than duplexes and townhomes, shall be provided with *electric vehicle* power transfer infrastructure in compliance with Sections RD105.1 through RD105.6 and Sections RD106 through RD107.

RD105.1 Quantity. The number of required *EVSE spaces*, *EV ready spaces*, and *EV capable spaces* shall be determined in accordance with this Section and Table RD105.1 based on the total number of *automobile parking spaces* and shall be rounded up to the nearest whole number. For multifamily buildings, the Table requirements shall be based on the total number of dwelling units or the total number of *automobile parking spaces*, whichever is less.

1. Where more than one parking facility is provided on a building site, the number of required *automobile parking spaces* required to have EV power transfer infrastructure shall be calculated separately for each parking facility.
2. Installed *EVSE spaces* that exceed the minimum requirements of this section may be used to meet minimum requirements for *EV ready spaces* and *EV capable spaces*.
3. Installed *EV ready spaces* that exceed the minimum requirements of this section may be used to meet minimum requirements for *EV capable spaces*.
4. Where the number of *EV ready spaces* allocated for multifamily occupancies is equal to the number of dwelling units or to the number of *automobile parking spaces* allocated to multifamily occupancies, whichever is less, requirements for *EVSE spaces* shall not apply.
5. In multifamily complexes that contain multiple buildings, required EV spaces shall be dispersed throughout parking areas so that each building has access to a similar number of spaces per dwelling unit.

**TABLE RD105.1
REQUIRED EV POWER TRANSFER INFRASTRUCTURE FOR MULTIFAMILY**

BUILDING TYPE	MINIMUM EV INSTALLED SPACES	MINIMUM EV READY SPACES	MINIMUM EV CAPABLE SPACES
Multifamily	5%	10%	40%

- a. Where all (100%) parking serving multifamily occupancies are EV ready spaces, requirements for *EVSE spaces* shall not apply.

RD105.2 EV capable spaces. Each *EV capable space* used to meet the requirements of Section RD105.1 shall comply with all of the following:

1. A continuous raceway or cable assembly shall be installed between an enclosure or outlet located within 3 feet (914 mm) of the *EV capable space* and a suitable panelboard or other onsite electrical distribution equipment.
2. Installed raceway or cable assembly shall be sized and rated to supply a minimum circuit capacity in accordance with RD105.5
3. The electrical distribution equipment to which the raceway or cable assembly connects shall have sufficient dedicated space and spare electrical capacity for a 2-pole circuit breaker or set of fuses.
4. The electrical enclosure or outlet and the electrical distribution equipment directory shall be marked: "For future electric vehicle supply equipment (EVSE)."

Climate Action Collaborate Recommended Regs

- Reserved capacity shall be no less than 4.1 kVA (20A 208/240V) for each *EV capable space*.

RD105.3 EV ready spaces. Each branch circuit serving *EV ready spaces* used to meet the requirements of Section RD105.1 shall comply with all of the following:

- Terminate at a receptacle with overcurrent protection and GFCI protection as required by NFPA 70, located within 3 feet (914 mm) of each *EV ready space* it serves.
- Have a minimum circuit capacity in accordance with RD105.5.
- Have a branch circuit on the panelboard or other electrical distribution equipment directory designated as “For electric vehicle supply equipment (EVSE)” and the outlet or enclosure shall be marked “For electric vehicle supply equipment (EVSE).”

RD105.4 EVSE spaces. An installed *EVSE* with multiple output connections shall be permitted to serve multiple *EVSE spaces*. Each *EVSE* installed to meet the requirements of Section RD105.1, serving either a single *EVSE space* or multiple *EVSE spaces*, shall comply with all of the following:

- Have a minimum circuit capacity in accordance with RD105.5.
- Have a minimum charging rate in accordance with RD105.4.1.
- Be located within 3 feet (914 mm) of each *EVSE space* it serves.
- Be installed in accordance with Section RD105.6 and RD105.7

RD105.4.1 EVSE minimum charging rate. Each installed *EVSE* shall comply with one of the following:

- Be capable of charging at a minimum rate of 6.2 kVA (or 30A at 208/240V).
- When serving multiple *EVSE spaces* and controlled by an energy management system providing load management, be capable of simultaneously charging each *EVSE space* at a minimum rate of no less than 3.3 kVA.
- When serving *EVSE spaces* allowed to have a minimum circuit capacity of 2.7 kVA in accordance with RD105.5.1 and controlled by an energy management system providing load management, be capable of simultaneously charging each *EVSE space* at a minimum rate of no less than 2.1 kVA.

RD105.5 Circuit capacity. The capacity of electrical infrastructure serving each *EV capable space*, *EV ready space*, and *EVSE space* shall comply with one of the following:

- A branch circuit with a rated capacity not less than 8.3 kVA (or 40A at 208/240V) for each *EV ready space* or *EVSE space* it serves.
- The requirements of RD105.5.1.

RD105.5.1 Circuit capacity management. The capacity of each branch circuit serving multiple *EVSE spaces*, *EV ready spaces* or *EV capable spaces* designed to be controlled by an energy management system providing load management in accordance with NFPA 70, shall comply with one of the following:

- Have a minimum capacity of 4.1 kVA per space.
- Have a minimum capacity of 2.7 kVA per space when serving *EV ready spaces* or *EVSE spaces* for a building site when all (100%) of the automobile parking spaces are designed to be *EV ready* or *EVSE spaces*.

RD105.6 EVSE installation. *EVSE* shall be installed in accordance with NFPA 70 and shall be listed and labeled in accordance with UL 2202 or UL 2594.

RD105.7. EVSE ENERGY STAR. All *EVSE* shall be ENERGY STAR certified.

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RD106. Universal vehicle charging stations. Where *electric vehicle* charging stations are provided for public use, or where *electric vehicle* charging stations are shared by multiple multifamily dwelling units, the number of universal vehicle charging stations shall be provided in accordance with Table RD106.1. When multiple stalls are required, access aisles may be shared.

**TABLE RD106.1
UNIVERSAL EV SPACE REQUIREMENTS**

TOTAL # OF EV CHARGING STATIONS	MINIMUM # OF UNIVERSAL VEHICLE CHARGING STATIONS
1 or more	25%

RD107. Identification. Construction documents shall designate all *EV capable spaces*, *EV ready spaces*, and *EVSE spaces* and indicate the locations of conduit and termination points serving them. The circuit breakers or circuit breaker spaces reserved for the *EV capable spaces*, *EV ready spaces*, and *EVSE spaces* shall be clearly identified in the panel board directory. The conduit for *EV capable spaces* shall be clearly identified at both the panel board and the termination point at the parking space.

Chapter 17.01: General Provisions

1.1 TITLE

This document is Title 17 of the Carbondale Municipal Code. It shall be officially known as the Unified Development Code of the Town of Carbondale, Colorado, and is referred to throughout this document as “this Unified Development Code,” “this UDC,” or “this Code.”

1.2 EFFECTIVE DATE

This Code shall be effective on May 9, 2016.

1.3 PURPOSE

1.3.1. This Unified Development Code is enacted to protect the public health, safety, and general welfare and to implement the policies of the Town of Carbondale Comprehensive Plan and adopted area plans, as may be amended from time to time.

1.3.2. This Code is specifically intended to:

- A. Lessen congestion in the streets;
- B. Secure safety from fire, floodwaters, and other dangers;
- C. Provide adequate light and air;
- D. Avoid undue concentration of population;
- E. Facilitate the adequate provision of transportation, water, sewage, schools, parks, and other public requirements; and
- F. Promote energy conservation, the use of solar energy and environmentally sensitive development.

1.3.3. This Code is drawn with reasonable and able consideration, among other things, as to the character of each zoning district and its peculiar suitability for particular uses, and with a view to conserving the value of buildings and property and encouraging the most appropriate uses of land throughout the Town.

1.4 AUTHORITY

This Code is adopted pursuant to the authority in the Carbondale Home Rule Charter and Colorado Revised Statutes 29-20-101 et seq. (Colorado Land Use Control Enabling Act) and 31-23-301 et seq., as amended.

1.5 JURISDICTION AND APPLICABILITY

1.5.1 JURISDICTION

This Code shall apply to all land, buildings, structures, and uses thereof located within the corporate boundaries of the Town of Carbondale, Colorado, unless an exemption is provided by or pursuant to the terms of this Code.

**Table 3.8-1:
Authorized Exceptions to Setback Requirements**

Storage sheds	In all residential zoning districts, storage sheds less than 120 square feet in size may be placed up to, but no closer than, three feet from a rear or side property line if they are not placed on a permanent foundation. Storage sheds shall not be located over an easement.
Front porches and stoops	In all residential zoning districts, covered front porches and stoops may extend into the required front setback up to eight feet, provided the porch or stoop is unenclosed and the eaves are at least five feet from the front property line.
Handicap ramps	Handicap access ramps may be located within required front, side, and rear setbacks.
Uncovered balconies	In all residential zoning districts, balconies that are uncovered may extend into any side or rear setback provided these projections are at least five feet from the property line. Uncovered balconies may also extend into the required front setback up to six feet.
Incidental architectural features	Cornices, eaves, canopies, sunshades, gutters, chimneys, flues, belt courses, headers, sills, pilasters, lintels, ornamental features, and other similar architectural features may project up to two feet into any required setback.

3.8.4. BUILDING HEIGHT

A. Measurement

Heights referred to in this Code shall be measured as stated in the definitions chapter under the term "building height."

B. Encroachments

Architectural features shall not exceed the maximum applicable building height within any zoning district, unless specifically authorized in the table below.

**Table 3.8-2:
Authorized Exceptions to Maximum Height Standards**

Church spires or belfries	Church spires or belfries may be up to 25% greater than the maximum allowed height; provided they are designed without provision for occupancy and plans receive prior approval of the Town.
Parapet walls	Screening parapet walls may extend above the maximum height limit up to 30 inches for buildings containing two or more dwelling units.
Rooftop mechanical equipment	Cupolas, chimney ventilators, skylights, water tanks, elevator overrides, solar collection equipment, and all other mechanical equipment may extend up to five feet above the maximum height limit provided the equipment complies with screening requirements set forth in Section 5.4.5: <i>Screening</i>
Transmitting antennae	A transmitting antenna may exceed the maximum applicable building height; provided, the total height does not exceed five feet plus twice the distance to the nearest property line, but in no case shall an antenna exceed 60 feet in height.

3.8.5. IMPERVIOUS LOT COVERAGE

The area of the lot covered by the following shall be included in the calculation of impervious lot coverage in all districts:

- A. The principal building;
- B. All accessory buildings, parking garages, carports, utility and storage sheds;
- C. Porches, stairways and elevated walkways, paved areas or areas otherwise covered with materials impervious to water;
- D. Parking areas and driveways regardless of surface materials;
- E. In a residential zoning district, any impervious covered or uncovered deck and/or patio is allowed to be calculated as pervious surface; however, this allowance is

CHAPTER 17.04: USE REGULATIONS**F. Satellite Receiving Dishes**

Satellite receiving dishes shall be placed in rear yard areas and are subject to the height limits and setbacks of the applicable zoning district.

G. Solar Energy Devices**1. Generally**

Solar energy devices shall be mounted in a manner that preserves the character-defining features of the structure and property and are subject to the height limits and setbacks of the appropriate zoning district.

2. Roof-Mounted

Roof-mounted solar energy devices may extend above the maximum height in any zoning district up to a maximum of five feet.

3. Ground-Mounted

Ground-mounted solar energy devices less than five feet in height may extend into the setbacks provided that no solar energy device shall ever be closer than five feet from any property line.

4.5 TEMPORARY USES AND STRUCTURES**4.5.1. PURPOSE**

The purpose of this section is to authorize the establishment of certain uses (including special events) and structures of a limited duration. This section is intended to ensure that such uses or structure do not negatively affect adjacent land, are discontinued upon the expiration of a set time period, and do not involve the construction or alteration of any permanent building or structure.

4.5.2. TEMPORARY USES AND STRUCTURES ALLOWED

Table 4.2-1 lists allowed temporary uses and structures alphabetically. Temporary uses and structures not listed in the table require approval under the procedure in Section 4.2.4.

4.5.3. APPROVAL PROCESS FOR TEMPORARY USES AND STRUCTURES

Prior to establishing any temporary use or structure, an applicant shall file an application for a temporary use permit to the Director. After review, the Director shall forward the application to the Board of Trustees for review. The Board shall approve, deny, or approve with conditions the temporary use permit. The Board may ask for additional materials and may impose conditions as it deems necessary for purposes of protecting the health, safety, and welfare of the community and/or mitigating potential impacts to surrounding property owners.

4.5.4. GENERAL STANDARDS FOR ALL TEMPORARY USES AND STRUCTURES

- A. All accessory uses and structures are subject to dimensional standards in Chapter 17.03: *Zoning Districts* and the development and design standards in Chapter 17.05: *Development Standards*. In the case of any conflict, the more restrictive standards, as determined by the Director, shall apply.
- B. Unless otherwise specified in this Code, any temporary use or structure shall:

CHAPTER 17.05: DEVELOPMENT STANDARDS

- c. To the maximum extent practicable, residential streets shall be arranged to follow the natural contours of the site.

D. Driveways and Access**1. General**

- a. Every lot shall have access that is sufficient to afford a reasonable means of ingress and egress for emergency vehicles, as well as for those needing access to the property in its intended use.
- b. All driveway entrances and other openings onto streets shall be constructed so that:
 - i. Vehicles may safely enter and exit from the lot in question;
 - ii. Interference with the free and convenient flow of traffic in abutting or surrounding streets is minimized; and
 - iii. Joint driveways are desirable whenever possible in order to minimize the number of access points to streets and access easements.

2. Residential

In addition to the above general requirements, all residential development shall be subject to the following:

- a. There shall be no direct driveway access (ingress or egress) from any single-family residential lots to any arterial street or highway unless no other legal access alternative is available.
- b. Multi-family development sites greater than five acres shall include a minimum of two through-access drives. An exception may be made where a site is landlocked by existing development or other physical constraints, or where existing natural features on the site require the use of protective measures that would otherwise make a second access drive infeasible.

3. Non-Residential

In addition to the above general requirements, all non-residential development shall be subject to the following:

- a. All non-residential buildings, structures, and parking and loading areas shall be physically separated from all non-arterial or collector streets by vertical curbs and other suitable barriers and landscaping to prevent unchanneled motor vehicle access. Each property shall not have more than two access ways to any one street unless unusual circumstances demonstrate the need for additional access points. In addition, each access way shall comply with the following:
 - i. 75 feet from a street intersection; and
 - ii. 40 feet from another access driveway.
- b. The width of any access way leading to the full access of an arterial street should be median-divided to provide separation from incoming and outgoing traffic. Construction and maintenance of such on-site medians shall be the responsibility of the property owner/developer.
- c. Unless no other practicable alternative is available, all driveways and other openings shall be located a minimum of:
 - i. 75 feet from a street intersection; and
 - ii. 40 feet from another access driveway.

CHAPTER 17.05: DEVELOPMENT STANDARDS

part of a planned/phased development, on a site that is adjacent to or across a street from two or more lots with existing structures.

2. Garage Location and Design

- a. Alley-loaded garages are required on new dwellings with alley access. Front-loaded garages are prohibited on lots with alley access.
- b. Front-loaded garages are encouraged to be located parallel to or behind the plane of the dwelling entry. Non-recessed, front-loading garages are discouraged.
- c. Street-facing garages are discouraged.
- d. The primary dwelling entrance should be the principal element of the building façade, rather than the garage.

D. Transitions Between Different Land Use Areas

When located adjacent to designated zoning districts, development shall comply with applicable height and setback transitional standards in Section 3.7.5: *Transitions Between Different Land Use Areas*.

E. Underground Utilities

All on-site electric utility, cable television lines and all other communication and utility lines for buildings shall be placed underground pursuant to Section 6.2.12.

F. Energy Conservation and Site Orientation Guidelines

1. Consideration shall be given to energy conservation in the building design. Use of solar space or water heating, or use of in-line hot water systems, efficient lighting systems, insulation and other energy efficient techniques are strongly encouraged.
2. Orientation of buildings and windows to improve solar access and energy conservation is strongly encouraged.
3. The site plan may be required to be modified so that view planes identified by the Town are preserved for as many structures as possible.
4. Appropriate landscape plant selection and placement should optimize solar access in the winter while offering shade in the summer.

5.6.4. SUPPLEMENTAL STANDARDS/GUIDELINES: ≥3 SINGLE-FAMILY DETACHED DWELLINGS ON ONE PARCEL**A. Applicability**

Any development that will include three or more single-family detached dwellings on one parcel shall comply with the general standards of Section 5.6.3: *General Standards for All Residential Development*, plus the standards and guidelines of this section.

B. Building Separation

Units shall be arranged around the site to maximize privacy for each individual unit.

CHAPTER 17.05: DEVELOPMENT STANDARDS

3. The entire site or parcel shall be made to comply with all multifamily design standards and guidelines in this section if the application represents an expansion of more than 20 percent of the total number of multifamily units.

B. Private Outdoor Space

In addition to complying with the standards in Section 5.3: *Open Space*, all multifamily development shall provide private outdoor space in compliance with this section.

1. Definition

"Private outdoor space" means the usable floor area of any patio, porch, or deck or enclosed yard attached to and accessible directly from a particular dwelling unit and that is for the exclusive private use by the residents of a particular dwelling unit.

2. Requirements

Private outdoor space shall be provided according to the following:

a. First-Floor Units

For units located on the first floor, the minimum size of private outdoor space shall be 80 square feet or 10 percent of the gross floor area of the unit, whichever is larger. The minimum dimension of such space shall be eight feet. Porches and entry patios that serve one dwelling may be considered private outdoor areas. However, any area necessary for walkways from outside the private outdoor area to the entrance of the dwelling unit shall be excluded from the calculation of the private outdoor space. Such walkways shall be assumed to be three feet in width.

b. Units Above First Floor

For units located above the first floor, the minimum size of private outdoor space shall be 60 square feet or five percent of the "livable" floor area of the unit, whichever is larger. The minimum dimension of such space shall be six feet.

3. Design of Private Outdoor Spaces

- a. The private intent of private outdoor spaces shall be clearly defined by the design.
- b. Private outdoor spaces shall be designed as an extension of the living unit. Its location and relationship to interior spaces should be given consideration.
- c. Where landscaped private outdoor space exceeds 10 percent of the floor area on the first floor, the excess private space may apply towards any common open space requirement.

C. Building Design Standards**1. Interior Space**

- a. Providing light into interior spaces from more than one direction, use of clerestories or sky lights, and passive solar heating is strongly encouraged.
- b. Use of features that expand the interior volume of the dwelling is strongly encouraged. This may include vaulted ceilings, bay window, alcoves, etc.

5.7.2. APPLICABILITY

- A. Development of any structure that will contain a commercial use or a mix of commercial and other uses shall comply with the general standards of Sections 5.7.3, *General Site Layout Standards*, and 5.7.4, *General Building Design*.
- B. In addition, the following supplemental standards are applicable to properties within the listed areas or of the listed types:
 - 1. Properties with frontage along Highway 133: Section 5.7.5.
 - 2. Buildings of 10,000 square feet or greater: Section 5.7.6.
 - 3. Properties within the HCC district: Section 5.7.7.
- C. In the case of mixed-use buildings, the standards of this Section 5.7 and the standards of Section 5.6: *Residential Site and Building Design*, shall both apply.
- D. In case of conflict, the more restrictive standard as determined by the Director shall apply.

5.7.3. GENERAL SITE LAYOUT STANDARDS**A. Development Responsive to Site Conditions**

Development shall respond to specific site conditions and opportunities such as odd-shaped lots, location on prominent intersections, unusual topography, the presence view corridors identified by the Town, trees and vegetation, and/or other natural features to the maximum extent feasible.

B. Transitions Between Different Land Use Areas

When located adjacent to designated zoning districts, development shall comply with applicable height and setback transitional standards in Section 3.7.5: *Transitions Between Different Land Use Areas*.

C. Building Orientation

Local climatic conditions shall be considered when orienting buildings. For example, north-facing facades are especially susceptible to winter snow and ice accumulation, and entries may require special treatment. Snow shed from roofs and snowpiling zones along streets shall be considered in arranging building elements on the site. Adequate solar access shall be considered when planning outdoor spaces, with shade and relief from glare provided by landscaping and overhead structures.

D. Building Locations (Multi-Building Developments)

Within developments that have three or more buildings, buildings shall be arranged and grouped using one or more of the following techniques (illustrated in Figure 5.7.3-A):

- 1. Frame the corner of an adjacent street intersection or entry point to the development;
- 2. Frame and enclose parking areas on at least two sides;
- 3. Frame and enclose outdoor dining and/or outdoor gathering spaces between buildings; or
- 4. On sites of 15 acres or more, frame and enclose a “main street” pedestrian and/or vehicle access corridor within the development.

CHAPTER 17.05: DEVELOPMENT STANDARDS**D. Primary Entrance**

Buildings shall be oriented so that the principal building entrance faces the principal street or the street providing main access to the site. In cases where the principal entrance does not face the principal street, the entrance shall connect to the street and adjacent parking areas with sidewalks.

E. Architectural Style

The architectural character of new buildings or additions shall complement the architectural character of adjacent existing buildings.

F. Signage

Signage shall be considered an integral design element of any building and shall be compatible with the exterior architecture with regard to location, scale, color and lettering style, in addition to complying with the standards of Section 5.9: *Signs*.

5.7.5. SUPPLEMENTAL STANDARDS: PROPERTIES WITH FRONTAGE ALONG HIGHWAY 133**A. Applicability**

Development of any structure that will contain a commercial use or a mix of commercial and other uses and that has frontage along Highway 133, shall comply with the general site layout and building design standards of Section 5.7.3 above, plus the standards of this section.

B. Setbacks**1. Highway Landscape Buffer**

All development shall be buffered from Highway 133 by a landscaped area a minimum of 10 feet deep, measured from the property line. Buildings and parking areas shall not be located in this buffer area. On sites with severe topographic constraints, this landscaped buffer may be reduced at the discretion of the Director.

2. Building Orientation

Uses with highway frontage shall have a strong internal focus, rather than a highway orientation. Entryways shall face towards the internal road system. A highway orientation will be permitted where shallow lot depths make it difficult to achieve an internal focus.

- a. **Developers shall carefully consider building orientation to achieve effective overall site planning.** Although legibility of signs identifying businesses from the highway is important, buildings shall be oriented towards focal points within the development itself. These focal points may include unique natural features, a building of central importance, internal streets, or planned open space.
- b. Adjacent residential land uses shall be considered when orienting buildings on properties with highway frontage. Service and utility entrances, mechanical support facilities, and unimproved building “back sides” shall not be located within view of neighboring residences or visible from highway right-of-way. Service and utility courts or alleys may contain these necessary support functions.

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- B. The Planning Director may also enter into contracts with other agencies, including regional housing authorities, to administer this Section or any guidelines thereof, subject to approval of the Board of Trustees.

5.11.12. APPLICABILITY OF OTHER PROVISIONS OF CODE

The provisions of this Section are in addition to all other provisions and requirements of this Code pertaining to development of real property, including those contained in other sections of this chapter, the subdivision regulations, and the zoning regulations.

5.12 SOLAR ACCESS**5.12.1. INTENT**

The purpose of these solar access standards is to provide adequate light and air, to promote energy conservation, to encourage solar energy usage, and to encourage the most appropriate use of land throughout the Town.

5.12.2. APPLICABILITY

- A. This section shall apply to all development that requires a building permit.
- B. This section shall apply to all subdivisions for which a preliminary plat approval has not been obtained pursuant to Section 2.6, *Procedures and Approval Criteria: Subdivisions*, prior to the effective date of this Code.

5.12.3. SOLAR ACCESS ZONES ESTABLISHED

- A. Three solar access zones are established: SA zone I, SA zone II and SA zone III.
1. SA zone I includes all property in the OTR, R/LD, and R/MD zone districts.
 2. SA zone II includes all property in the R/HD zone district.
 3. SA zone III includes all property in the CT, CRW, HCC, and MU zone districts.
- B. Based on a computation of dwelling unit density, areas within PUDs shall be placed in that solar access zone that would have been applicable if the area were located within base zoning districts as described in Chapter 17.03: *Zoning Districts*.

5.12.4. SHADING ANALYSIS

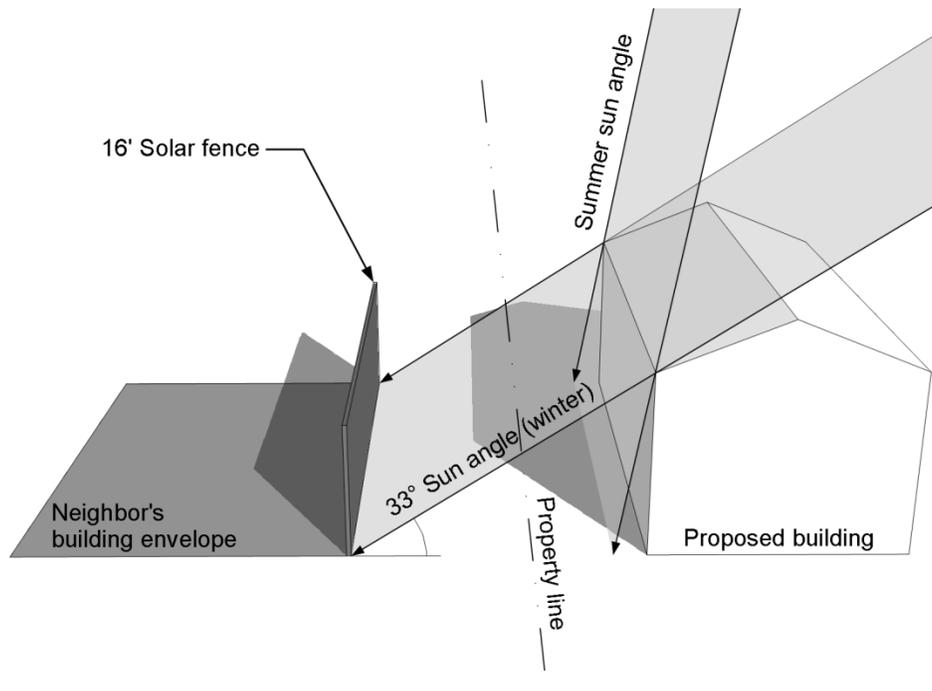
A shading analysis shall be performed for all development subject to this section. A topographical map of the property and adjoining properties may be required by the Director.

5.12.5. SHADE PROHIBITIONS

- A. In SA zone I, no person shall erect a structure or object or allow vegetation that would shade any higher than a theoretical 16-foot high solar fence on the building envelope of the adjoining property during the solar use period, except as set forth in Sections 5.12.6, *Inconsequential Shade*, and 5.12.8, *Variations*. See example in Figure 5.12.5-A below.

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Figure 5.12.5-A: Solar Fence



- B. In SA zone II, no person shall erect a structure or object or allow vegetation that would shade any higher than a theoretical 25-foot high solar fence on the building envelope of the adjoining property during the solar use period, except as set forth in Sections 5.12.6, *Inconsequential Shade*, and 5.12.8, *Variations*. See example in Figure 5.12.5-A above.
- C. No restrictions are created by this section on erecting any object or structure that would shade a lot in SA zone III; however, any structure to be erected or any vegetation allowed in SA zone III after the effective date of this Code shall not shade a lot in a bordering OTR, R/LD, R/MD and R/HD zone to a greater degree than a solar fence 25 feet in height as stated in subsection B above.

5.12.6. INCONSEQUENTIAL SHADE

Notwithstanding other provisions of this section, a person may erect:

- A. Chimneys, utility poles, television or radio aerials, flag poles, or guy wires in any solar access zone district without violating this chapter if the resulting shade does not reduce by more than 10 percent of the total amount of solar energy in the protected area during the solar use period; or
- B. Temporary structures necessary for lawful construction or renovation for not more than 30 days in any calendar year per Section 4.5, *Temporary Uses and Structures*.

5.12.7. NONCONFORMING USES

- A. All objects and structures that are in place or for which a valid building permit has been issued as of the effective date of this Code and that exceed the shading

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- prohibitions in 5.12.5, *Shade Prohibitions*, shall be deemed nonconforming solar access structures.
- B. The expansion or alteration in any way of a nonconforming solar access structure is prohibited to the extent that the enlargement or alteration will increase the amount of shade in a protected area during the solar use period.
 - C. A nonconforming solar access structure extensively damaged by sudden destruction beyond the control of the user or by fire may be reconstructed or replaced so long as the extent of nonconformity is not increased.

5.12.8. VARIANCES

- A. The Planning Commission shall have the power to hear and decide requests for variances from the provisions of Section 5.12.5, *Shade Prohibitions*, utilizing the procedures established in this section. The provisions of Section 2.7.1, *Variances*, shall not apply.
- B. A person may apply for a variance in order to erect an object or structure, or alter an existing object or structure, the result of which will interfere with the solar access protection established by Section 5.12.5, *Shade Prohibitions*.
- C. An application for a variance shall include:
 - 1. The name and address of the applicant;
 - 2. The name and address of the owner of the subject property if different from the applicant;
 - 3. A legal description of the subject property for which the variance is sought;
 - 4. Evidence of title;
 - 5. An improvement survey plat to scale showing lot lines, structures, solar systems, dimensions, and topography with such detail as is necessary to show the diminution of shade in an area protected by Section 5.12.5, *Shade Prohibitions*, on each lot that would be affected by the object or structure;
 - 6. A graphic representation of the shadows that would be caused by the proposed object or structure during the solar use period;
 - 7. A description of reasonable efforts of the applicant in designing and locating the proposed object or structure in a manner that will minimize the impact upon adjacent protected areas and structures;
 - 8. A list of all lots that may be affected by the proposed object or structure and the names and addresses of all of the owners of such lots; and
 - 9. Such other information as the Town may deem reasonably necessary to act upon the application.
- D. The Planning Commission shall conduct a public hearing after a notice as required by this code. At the hearing, if the Planning Commission finds that the application complies with subsection E below, it shall approve the application. If the Commission finds that conditions or restrictions are necessary to ensure compliance with subsection E below, it may grant the application and impose such conditions as are reasonably necessary to ensure compliance with subsection E below. If the Planning

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Commission finds that the application does not comply with subsection E below, it shall deny the application.

- E. A variance may be granted if any of the following is found to exist:
1. Due to the topography, or prior structures creating shade, the protected area of the beneficiary's lot is already substantially shaded or is inherently unsuitable as a site for reasonable use of a solar energy system, or the proposed structure would shade only the west or east side of an existing structure on the beneficiary's protected area;
 2. The property for which the variance is sought cannot be reasonably used without the erection or alteration of the proposed structure or object, and the proposed action would afford economically feasible relief which would cause the least interference with the solar access to the protected area or structures of the beneficiary's lot;
 3. Potential shading of an existing solar system on the lot of the beneficiary will not impair the beneficiary's reasonable and efficient use of his solar energy system; or
 4. The grant of the application is necessary to relieve the applicant from unnecessary and undue hardship which is not self-induced, if all reasonable steps have been taken to minimize the reduction of solar access on the lot of the beneficiary.
- F. Notwithstanding any other provisions of this section, if a variance is sought for property which is at the time of the variance application the subject of an application for subdivision approval, for subdivision exemption, or for approval of a planned unit development, the variance shall be treated as part of the underlying application for approval of a subdivision, exemption, or planned unit development.
- G. Any person aggrieved by the grant or denial, with or without conditions, of a variance by the Planning Commission may appeal the decision to the Board of Trustees. The Board of Trustees shall promptly conduct a public hearing after notice as required by this Code. In making its decision, the Board of Trustees shall apply the standards in subsection E above of this section. The decision of the Board of Trustees shall be appealable to a court of law, in the manner permitted by law.

5.13 WIRELESS FACILITIES

5.13.1. INTENT

In order to accommodate the communication needs of residents and businesses while protecting the public health, safety, and general welfare of the community, the Town finds that these regulations are necessary to:

- A. Provide for the managed development and installation, maintenance, modification, and removal of wireless facilities infrastructure in the Town with the fewest number of wireless facilities to complete a network without unreasonably discriminating against wireless communications providers of functionally equivalent services, including all of those who install, maintain, operate, and remove wireless facilities;
- B. Promote and protect the public health, safety, and welfare by reducing the visibility of wireless facilities to the fullest extent possible through techniques including but not