

Title

Amending Sec. 28.03(2), creating Sec. 28.04(18)(e); repealing Secs 28.08(2)(c)16., 28.08(9)(c) 5., 28.08(11)(c)9., 28.12(13)(a)10.d.; renumbering current Secs. 28.12(13)(a)10.e. through g. to Secs. 28.12(13)(a)10.d. through f., respectively; amending Secs. 30.01(3)(b)5., 30.01(5)(b); repealing Secs. 30.01(9)(c)9. and 11.; renumbering current Sec. 30.01(9)(c)10. to Sec. 30.01(9)(c)9.; amending Sec. 30.05(2); repealing Sec. 30.05(5); renumbering current Secs. 30.05(6) through (17) to Secs. 30.05(5) through (16), respectively; amending Sec. 30.05(9); repealing 30.05(11)(e); creating new Sec. 30.05(13)(d); renumbering current Secs. 30.05(13)(d) through (f) to Secs. 30.05(13)(e) through (g); creating new Secs. 30.05(13)(h), 30.05(15)(b), 30.05(15)(c); renumbering current Secs. 30.05(15)(b) and (c) to Secs. 30.05(15)(d) and (e); and repealing Sec. 33.19(12)(d)3.; renumbering Sec. 33.19(12)(d)4. through 11. to 3. to 10.; repealing Sec. 33.19(12)(f)1.f.; renumbering Sec. 33.19(12)(f)1.g. to f.; repealing 33.19(13)(d)8. and renumbering Sec. 33.19(13)(d)9. through 13. to 8. through 12., respectively of the Madison General Ordinances to update provisions relating to solar/wind systems.

Body

DRAFTER'S ANALYSIS: These proposed amendments update a number of provisions on the Madison General Ordinances that deal with solar or wind energy systems so that they are consistent with Wis. Stat. § 66.0401 or reflect changes that make the existing provisions more in line with current technologies or practices. The second item proposed is the one that states the limits on the City's authority to regulated solar and wind energy systems under Wis. Stat. § 66.0401, and makes unenforceable all restrictions, covenants, etc., that prohibit the installation of such systems.

The Common Council of the City of Madison do hereby ordain as follows:

Legislative file 11077	Explanation
<p>1. Subsection (2) entitled "Definitions" of Section 28.03 entitled "Rules and Definitions" of the Madison General Ordinances is amended by amending or adding therein the following: "Solar Energy System means equipment that directly converts and then transfers or stores solar energy into usable forms of thermal or electrical energy. Wind Energy System means equipment that converts and then stores or transfers energy from the wind into usable forms of energy."</p>	<p>Defines what solar and wind energy systems are. These definitions are from the state statutes.</p>
<p>2. Subdivision (e) of Subsection (18) entitled "Exemptions" of Section 28.04 entitled "General Provisions" of the Madison General Ordinances is created to read as follows: "(e) 1. Solar and wind energy systems are permitted accessory uses in all districts provided that the Director of the Department of Planning and Community and Economic Development has approved a placement plan showing the location of the solar or wind energy system on the lot and the design of the solar or wind energy system. The placement plan also shall include the location of improvements on adjoining lots as well as landscaping on the lot and adjoining lots that impacts the location of the solar or wind energy system. Additional materials may be required as determined by the Director of the Department of Planning and Community and Economic Development. Any conditions or restrictions imposed by the Director of the Department of Planning and Community and Economic Development shall be limited to those that serve to preserve or protect the public health and safety, or do not significantly increase the cost of the system or significantly decrease its efficiency, or allow for an alternative system of comparable cost and efficiency. 2. In furtherance of public health and welfare concerns, all restrictive covenants, including covenants in deeds, and covenants or provisions in condominium owner's agreements, homeowner's association agreements,</p>	<p>1. Gives the Director of the Department of Planning and Community and Economic Development the authority to approve solar system placement plans. The director may consult staff with the appropriate expertise, e.g. engineering, building, to evaluate placement plans and may request additional materials as needed. The conditions or restrictions that are listed are taken directly from the state statute. They are the only conditions or restrictions allowed. Aesthetic considerations must be addressed in the context of these specified conditions or restriction.</p> <p>2. This language is not re-</p>

<p>leases, and all other private agreements, to the extent such covenants or provisions apply to the storage, placement, location or use of solar and/or wind energy systems, as defined in Sec. 28.03(2), are set aside and declared unenforceable as against public policy. This subsection applies to all such covenants and provisions, including those created prior to the enactment of this ordinance."</p>	<p>quired by the state statute, which does not deal with private covenants and restrictions. The statute applies only to governmental entities, so private covenants, restrictions, etc. currently can regulate solar/wind systems in any manner, even by prohibiting them. This language invalidates any existing or future private restrictions, covenants, etc. regulating solar/wind systems.</p>
<p>3. Paragraph 16. of Subdivision (c) entitled "Conditional Uses" of Subsection (2) entitled "R1 Single-Family Residence District" of Section 28.08 entitled "Residence Districts" of the Madison General Ordinances is hereby repealed.</p>	<p>1. Section 28.08(2)(c)16. currently reads: "16. Solar heat collection apparatus that: a. In rear yards, are not a permitted obstruction pursuant to Sec. 28.04(6)(e)3.l.; b. In side yards, are not a permitted obstruction pursuant to Sec. 28.04(6)(e)4.e.; or c. In front yards, are not a permitted obstruction pursuant to Sec. 28.04(6)(e)2.e."</p> <p>The conditional use standards allow more regulation that is authorized by state law. This likely was adopted before the state law, or the inconsistency was never noticed.</p>
<p>4. Paragraph 5. of Subdivision (c) entitled "Conditional Uses" of Subsection (9) entitled "R4L Limited General Residence District" of Section 28.08 entitled "Residence Districts" of the Madison General Ordinances is hereby repealed.</p>	<p>2. Section 28.08(9)(c)5. currently reads: "5. Solar heat collection apparatus that: a. In rear yards, are not a permitted obstruction pursuant to Sec. 28.04(6)(e)3.l.; b. In side yards, are not a permitted obstruction pursuant to Sec. 28.04(6)(e)4.e.; or c. In front yards, are not a permitted obstruction pursuant to Sec. 28.04(6)(e)2.e."</p> <p>The conditional use standards allow more regulation that is authorized by state law.</p>
<p>5. Paragraph 9. of Subdivision (c) entitled "Conditional Uses" of Subsection (11) entitled "R4A Limited General Residence District" of Sec-</p>	<p>3. Section 28.08(11)(c)9. currently reads:</p>

<p>tion 28.08 entitled "Residence Districts" of the Madison General Ordinances is hereby repealed.</p>	<p>"9. Solar heat collection apparatus that: a. In rear yards, are not a permitted obstruction pursuant to Sec. 28.04(6)(e)3.l.; b. In side yards, are not a permitted obstruction pursuant to Sec. 28.04(6)(e)4.e.; or c. In front yards, are not a permitted obstruction pursuant to Sec. 28.04(6)(e)2.e."</p> <p>The conditional use standards allow more regulation that is authorized by state law.</p>
<p>6. Subparagraph d. of Paragraph 10. of Subdivision (a) entitled "Amendments, Conditional Uses and Area Exceptions" of Subsection (13) entitled "Fees" of Section 28.12 entitled "Administration and Enforcement" of the Madison General Ordinances is hereby repealed.</p>	<p>4. Section 28.12(13)(a)10.d. currently reads: "d. Solar heat collection apparatuses;"</p> <p>Conditional use application will not be necessary anymore – therefore no fees for such.</p>
<p>7. Current Subparagraphs e., f., and g. of Paragraph 10. of Subdivision (a) entitled "Amendments, Conditional Uses and Area Exceptions" of Subsection 28.12 entitled "Administration and Enforcement" of the Madison General Ordinances are renumbered to Subparagraphs d., e., and f.</p>	<p>Renumbering to account for deletion/addition of paragraphs</p>
<p>8. Paragraph 5. of Subdivision (b) of Subsection (3) entitled "Classes of Licenses" of Section 30.01 entitled "Administration" of the Madison General Ordinances is amended to read as follows: "5. Class A-4 license shall be issued to a person desiring to enter into the business of installing, altering or repairing active solar heating equipment. This license is not required if the person has a North American Board of Certified Energy Practitioners (NABCEP) certification."</p>	<p>Renumbering to account for deletion/addition of paragraphs</p>
<p>9. Subdivision (b) of Subsection (5) entitled "Licenses-How Obtained" of Section 30.01 entitled "Administration" of the Madison General Ordinances is amended to read as follows: "(b) An application shall be filed with the Heating, Ventilating and Air Conditioning Inspector thirty (30) days prior to the date on which an examination is to be held. An application fee of sixty dollars (\$60) shall accompany application for Class B, Class A-3 and Class A-4 licenses. An application fee of one hundred twenty-five dollars (\$125) shall accompany application for Class A-1 and A-2 licenses. Application shall be made on forms furnished by the Neighborhood Preservation and Inspection Division of the Department of Planning and Community and Economic Development, City of Madison, Municipal Building, Madison, Wisconsin. Persons who are engaged in solar system installation shall hold an A-4 license or an NABCEP certification for solar thermal installers. The applicant must furnish evidence that s/he is engaged in such installation. Upon finding that the applicant is engaged in the solar system installations, if the applicant is not NABCEP certified, an A-4 license will be issued after the appropriate fee is paid and the bond has been furnished."</p>	<p>Will allow installers that are NABCEP certified (solar thermal) to install solar thermal systems without obtaining an A-4 license. All other installers must obtain an A-4 license to perform installation of solar thermal systems.</p>
<p>10. Paragraphs 9. and 11. of Subdivision (c) entitled "Data Required as</p>	<p>5. Section 30.01(9)(c)9. cur-</p>

<p>Part of the Permit Application” of Subsection (9) entitled “Permits, Plans, Specifications and Data” of Section 30.01 entitled Administration” of the Madison General Ordinances are hereby repealed.</p>	<p>rently reads: “9. For solar systems, furnish a plot plan showing the proposed location of solar collector and any tree and/or structure that presently casts a shadow within twenty (20) feet of the proposed collector location.”</p> <p>This is redundant and unnecessary information for the permit</p>
<p>11. Current Paragraph 10. of Subdivision (c) entitled “Data Required as Part of the Permit Application” of Subsection (9) entitled “Permits, Plans, Specifications and Data” of Section 30.01 entitled Administration” of the Madison General Ordinances is renumbered to Paragraph 9.</p>	<p>6. Section 30.01(9)(c)11. currently reads: “11. For solar systems, furnish detailed drawings of all piping, pumps, blowers, wiring, storage vessels, ductwork, dampers, valves, insulation and all other material that will be required to install the system.”</p> <p>Renumbering to account for deletion/addition of paragraphs</p>
<p>12. Subsection (2) entitled “Shading of Solar Collectors” of Section 30.05 entitled “Active Solar Collector Systems” of the Madison General Ordinances is amended to read as follows: “(2) Shading of Solar Collectors. No more than twenty percent (20%) of the <u>annual</u> area of the solar path shading diagram shall be obstructed</p>	<p>This is for consumer protection. If there will be more shading, the owner must sign consent that he knows about that.</p> <p>Section 30.05 (1) (d) currently reads and will remain intact: “Any variations from the orientation guidelines above and the shading percentage of the solar collector required in Sec. 30.05(2) below, must be consented to and acknowledged by the owner in writing prior to installation of the solar system.”</p>
<p>13. Subsection (5) entitled “Use of Wood in Solar Collection Systems” of Section 30.05 entitled “Active Solar Collector Systems” of the Madison General Ordinances is hereby repealed.</p>	<p>7. Section 30.05(5) currently reads: “(5) Use of Wood in Solar Collection Systems. All wood components used in collector mounting which are exposed to the weather shall be pressure treated wood, meeting Interim Federal Specifications TT-W-571J-Rev. 1974, as amended or revised. Wood used in collector frames or housing shall be protected against pyrolysis.”</p> <p>Exposed wood will deteriorate over time and structural</p>

Deleted: fifteen

Deleted: 15

	properties will be unpredictable
14. Current Subsections (6) through (17) of Section 30.05 entitled "Active Solar Collector Systems" of the Madison General Ordinances are renumbered to Subsections (5) through (16).	Renumbering to account for deletion/addition of paragraphs
15. Renumbered Subsection (7) entitled "Liquid Systems - Piping and Penetration" of Section 30.05 entitled "Active Solar Collector Systems" of the Madison General Ordinances is amended to read as follows: "(87) Liquid Systems - Piping and Penetration. (a) When three (3) or more collectors are installed in any one system, a reverse flow piping configuration shall be used unless an alternate flow configuration is recommended by the manufacturer. (b) No permanent piping shall connect the solar system with potable water. (c) All piping used in the solar loop supply and return and within ten (10) feet of the collector shall be made and assembled of materials that can withstand antifreeze solution at temperatures of up to 350°F. The remaining solar loop piping shall be made and assembled of materials that can withstand antifreeze solution of 200° F. Note: CPVC Piping has performed poorly in certain installations. (d) All solar loop building penetrations shall be made using weather-proof devices which will allow for expansion and contraction. All penetrations into the building shall be weatherproofed to prevent leaks, insects and drafts from entering the building. (e) All of the components of a closed loop solar collector system shall be sized to provide adequate flow to the collectors. (f) The solar loop shall incorporate a check valve downstream of the heat exchanger if collectors are mounted above the storage tank. (g) Automatic air vents shall be disconnected from the solar loop by a ball valve."	This is all good and common installation practice and to protect consumers from bad installations.
16. Renumbered Subsection (9) entitled "Liquid Systems - Pipe Insulation" of Section 30.05 entitled "Active Solar Collector Systems" of the Madison General Ordinances is amended to read as follows: "(9) Liquid Systems - Pipe Insulation. (a) All pipe insulation in the solar collection system shall be at least R-5 in insulating value. (b) Exterior pipe insulation shall resist ultraviolet and environmental degradation and shall be covered by material providing weather resistance, UV protection and mechanical abuse protection. Exterior insulation joints, seams and connections shall be sealed to prevent entry of moisture. Fiberglass and elastomer insulation shall not be used for exterior solar application. (c) Solar supply loop shall be insulated with three hundred degree (300°F) rated insulation approved for solar applications. Note: One-inch thickness of urethane, and phenolic foam, with appropriate cover will meet the requirements of Subsection (b) above."	This is all good and common installation practice and to protect consumers from bad installations.
17. New Subdivision (d) of Renumbered Subsection (13) entitled "Storage Tanks - Liquid Systems" of Section 30.05 entitled "Active Solar Collector Systems" of the Madison General Ordinances is created to read as follows: "(d) Heat traps shall be included on all supply and discharge lines for the storage tank."	8. Renumbered Section 30.05(11)(e) currently reads: "(e) The heat transfer fluid used in the collectors shall be isolated from the potable water supply through the use of an approved double wall heat exchanger." ELIMINATE! ADD TO DRAFT!!!!

<p>18. Current Subdivisions (d) through (f) of Renumbered Subsection (13) entitled "Storage Tanks - Liquid Systems" of Section 30.05 entitled "Active Solar Collector Systems" of the Madison General Ordinances are renumbered to Subdivisions (e) through (g), respectively.</p>	<p>Renumbering to account for deletion/addition of paragraphs</p>
<p>19. Subdivision (h) of Renumbered Subsection (13) entitled "Storage Tanks – Liquid Systems" of Section 30.05 entitled "Active Solar Collector Systems" of the Madison General Ordinances is created to read as follows: “(h) Storage tanks shall have a tempering valve adjustable to 120°F downstream from the regular water heater and heat trap.”</p>	<p>This will prevent scalding and will protect safety and health of occupants.</p>
<p>20. New Subdivision (b) of Renumbered Subsection (15) entitled "Monitoring and Manuals" of Section 30.05 entitled "Active Solar Collector Systems" of the Madison General Ordinances is created to read as follows: “(b) A pressure gauge shall be installed in the solar loop.”</p>	<p>This is all good and common installation practice and to protect consumers from bad installations.</p>
<p>21. New Subdivision (c) of Renumbered Subsection (15) entitled "Monitoring and Manuals" of Section 30.05 entitled "Active Solar Collector Systems" of the Madison General Ordinances is created to read as follows: “(c) The solar loop supply and return and the discharge line of the tempering valve shall have thermometers.”</p>	<p>This is all good and common installation practice and to protect consumers from bad installations.</p>
<p>22. Current Subdivisions (b) and (c) of Renumbered Subsection (15) entitled "Monitoring and Manuals" of Section 30.05 entitled "Active Solar Collector Systems" of the Madison General Ordinances are renumbered to Subdivisions (d) and (e), respectively.</p>	<p>Renumbering to account for deletion/addition of paragraphs</p>
<p>23. Paragraph 3. entitled "Solar Apparatus" of Subdivision (d) entitled "Criteria for the Review of Additions, Exterior Alterations and Repairs in R2 and R4A Zoning Districts" of Subsection (12) entitled "University Heights Historic District" of Section 33.19 entitled "Landmarks Commission" of the Madison General Ordinances is hereby repealed.</p>	<p>9. Section 33.19(12)(d)3. currently reads: “3. Solar Apparatus. Passive and active solar apparatus are prohibited unless the Landmarks Commission determines that they are as unobtrusive as possible and that their use does not detract from the architectural integrity of the building provided, however, that solar apparatus will not be permitted where the device hides from street view significant architectural features of the building or neighboring buildings, where its installation requires the loss of significant architectural features or where the device is of such a large scale that it becomes a major feature of the design.”</p> <p>This provision violates state law.</p>
<p>24. Current Paragraphs 4. through 11. of Subdivision (d) entitled "Criteria for the Review of Additions, Exterior Alterations and Repairs in R2 and R4A Zoning Districts" of Subsection (12) entitled "University</p>	<p>Renumbering to account for deletion/addition of paragraphs</p>

<p>Heights Historic District” of Section 33.19 entitled “Landmarks Commission” of the Madison General Ordinances are renumbered to Paragraphs 3. through 10.</p>	
<p>25. Subparagraph f. entitled “Solar Panels” of Paragraph 1. entitled “Principal Buildings” of Subdivision (f) entitled “Criteria for the Review of New Construction in the R2, R4, R4A, R5, R6, C1, C2 and OR Zoning Districts” of Subsection (12) entitled “University Heights Historic District” of Section 33.19 entitled “Landmarks Commission” of the Madison General Ordinances is hereby repealed.</p>	<p>10. Section 33.19(12)(f)1.f. currently reads: “f. Solar Panels. Solar panels are permitted on new buildings or structures, including front facades, except when such devices hide from street view significant architectural features of neighboring buildings or if they are of such a large scale that they become a major feature of the design.”</p> <p>This provision violates state law.</p>
<p>26. Current Subparagraph g. entitled “Parking Lots” of Paragraph 1. entitled “Principal Buildings” of Subdivision (f) entitled “Criteria for the Review of New Construction in the R2, R4, R4A, R5, R6, C1, C2 and OR Zoning Districts” of Subsection (12) entitled “University Heights Historic District” of Section 33.19 entitled “Landmarks Commission” of the Madison General Ordinances is renumbered to Subparagraph f.</p>	<p>Renumbering to account for deletion/addition of paragraphs</p>
<p>27. Paragraph 8. entitled “Solar Apparatus” of Subdivision (d) entitled “Criteria for the Review of Additions, Exterior Alterations and Repairs” of Subsection (13) entitled “Marquette Bungalows Historic District” of Section 33.19 entitled “Landmarks Commission” of the Madison General Ordinances is hereby repealed.</p>	<p>11. Section 33.19(13)(d)8. currently reads: “8. Solar Apparatus. Solar apparatus is not compatible with the historic character of the district and is prohibited.”</p> <p>This provision violates state law.</p>
<p>28. Current Paragraphs 9. through 13. of Subdivision (d) entitled “Criteria for the Review of Additions, Exterior Alterations and Repairs” of Subsection (13) entitled “Marquette Bungalows Historic District” of Section 33.19 entitled “Landmarks Commission” of the Madison General Ordinances are renumbered to Paragraphs 8. through 12.</p>	<p>Renumbering to account for deletion/addition of paragraphs</p>

66.0401. Regulation relating to solar and wind energy systems

(1) Authority to restrict systems limited. No county, city, town, or village may place any restriction, either directly or in effect, on the installation or use of a solar energy system, as defined in [s. 13.48\(2\)\(h\)](#)1.g., or a wind energy system, as defined in [s. 66.0403\(1\)\(m\)](#), unless the restriction satisfies one of the following conditions:

- (a) Serves to preserve or protect the public health or safety.
- (b) Does not significantly increase the cost of the system or significantly decrease its efficiency.
- (c) Allows for an alternative system of comparable cost and efficiency.