



**Zoning Text Amendment (ZTA) No. 20-01, Solar Collection System - Standards**

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Gregory Russ, Planner Coordinator, FP&P, [gregory.russ@montgomeryplanning.org](mailto:gregory.russ@montgomeryplanning.org), 301-495-2174

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Jason Sartori, Chief, FP&P, [jason.sartori@montgomeryplanning.org](mailto:jason.sartori@montgomeryplanning.org), 301-495-2172

**Completed: 02/13/20**

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**Description**

As defined under Section 59.3.7.2.A, Solar Collection System means an arrangement of panels or other solar energy devices that provide for the collection, inversion, storage, and distribution of solar energy for electricity generation, space heating, space cooling, or water heating. A Solar Collection System includes freestanding or mounted devices.

Zoning Text Amendment (ZTA) 20-01 would revise the Solar Collection System use standards to allow larger facilities in the Agricultural Reserve (AR) zone, amend the provisions for Solar Collection Systems in other zones, and amend the provision for site plan approval in the AR zone. Currently, a Solar Collection System in the Agricultural Reserve is limited to an accessory use.

**Summary**

**Staff recommends approval of ZTA No. 20-01, with modifications, to revise the Solar Collection System use standards to allow larger facilities in the Agricultural Reserve (AR) zone, amend the provisions for Solar Collection Systems in other zones, and amend the provision for site plan approval in the AR zone. Staff believes that ZTA 20-01 – if modified as recommended in this report - can strike a balance in addressing the desire to provide more solar production opportunities in the County, including the ability to provide “Community Solar” benefits to those who cannot, or prefer not to, install solar panels on their homes, with the protection measures for properties that are near these facilities. In the case of solar facilities that are not accessory to a principle use, the legislation continues to require site plan approval and provides limitations on the size of the overall system and the height of any freestanding structure.**

**For a Solar Collection System located in the AR zone, in addition to the aforementioned standards, inclusion of requirements that the ground underneath the panels have pollinator-friendly plants or is suitable for grazing or crop production, that soil and tree removal is minimized, and that a limitation be placed on the amount of agricultural land that can be developed as a Solar Collection System, further assists in reducing the impacts of solar collection as a principle use in the AR zone. However, staff is recommending additional requirements that will further strengthen the goal of having Solar Collection Systems in the AR zone be compatible with other public policy goals including agricultural production, environmental sustainability, and Agritourism. Staff also believes that the limited area recommended for inclusion for potential development of Solar Collection Systems in the AR zone**

**(1,800 acres or approximately two percent of the total 93,000 acres of the Agricultural Reserve) represents a small enough area of the Agricultural Reserve to not significantly compromise the Master Plan for Preservation of Agricultural and Rural Open Space’s designation of farm land and agriculture as the preferred land use in the Agricultural Reserve. Again, please note that within the staff report, staff has recommended several clarifications and recommended additional requirements to further strengthen the protections provided by the ZTA as introduced.**

## **Background/Analysis**

On May 15, 2018 the County Council adopted ZTA 18-01 to revise the Solar Collection System use standards to allow larger facilities in Rural Residential, Residential, Commercial/Residential, Employment, and Industrial zones. The sponsors of ZTA 18-01 believed that the public interest would be served by expanding the opportunities for solar production in areas where development is anticipated. The ZTA retained the accessory use limitation on solar collection systems in the Agricultural Reserve (AR) zone. The ZTA included standards to prevent glare and to buffer the facility from surrounding land uses. The ZTA provided more opportunities for community oriented solar facilities. Community oriented solar facilities offer the benefit of solar to those who can't, or prefer not to, install solar panels on their homes. These projects enable individuals, businesses, or organizations to purchase or lease a "share" in a community solar project. Shared solar means photovoltaic (PV) systems can be somewhere else in the community (in a field, on a building, over a parking lot, and elsewhere) but provide the benefits of solar electricity to participating subscribers.

ZTA 20-01, Solar Collection Systems – AR Zone Standards, would allow a targeted deployment of community solar projects on farms in the County’s Agricultural Reserve.

### Rationale for ZTA Introduction *(Excerpt from Fact Sheet prepared by the Sponsors of ZTA 20-01)*

ZTA 20-01 would limit the applicability of the legislation to 1,800 acres (or about two percent) of the County’s 93,000-acre Agricultural Reserve for community solar as a limited use. Currently, the zoning code prohibits community solar in the Agricultural Reserve.

“As a national environmental leader, Montgomery County has declared a climate emergency and committed to “100 percent elimination” of carbon emissions by 2035 (and 80 percent by 2027). Eliminating carbon emissions will require tackling their sources -- the emissions that come from fossil fuels used to power buildings and transportation, particularly. According to the Metropolitan Washington Council of Governments, 51 percent of County emissions come from the energy used to power our buildings. Achieving a quicker reduction of buildings’ emissions requires transforming the sources of energy that our buildings use. That means increasing solar energy production.

Maryland’s community solar law allows solar providers to sell solar energy to larger groups of consumers -- groups of houses or apartment communities -- who cannot or have not yet installed solar panels. Community solar farms are smaller than “utility scale” arrays; they only require 10 to 12 acres of land. They may produce up to two megawatts of electricity (or about 4,464,000 kWh’s) annually, which replaces energy derived from fossil fuels in the electrical grid.

More specifically, each two-megawatt community solar project avoids the creation of 3,156 metric tons of carbon emissions. That is equivalent to the emissions created by 364 homes in one year. Extrapolating to the full buildout of 1,800 acres in the County's Agricultural Reserve, the solar energy produced would provide enough clean energy for 54,631 homes. Zooming out a bit further, a full buildout under this ZTA would reduce approximately 473,434 metric tons of carbon emissions, or 4.4 percent of the County's total emissions. That would be a sizable step toward meeting the County's climate goals. By contrast, rooftop solar mandates for new construction would take decades to achieve the same level of energy substitution and emissions reduction."

ZTA 20-01 includes a number of provisions to support agriculture, including requirements that the ground under the panels have pollinator-friendly plants or is suitable for grazing and that soil and tree removal is minimized. It also has site size, setback, height and fencing requirements. The goal of this ZTA is to get solar deployed quickly while limiting its impact on the overall Agricultural Reserve. To achieve that balance, community solar is limited to two percent of the Agricultural Reserve (1,800 acres).

Specifically, ZTA 20-01 modifies the Solar Collection System provisions as discussed below:

- **Eliminates the limited use provision requiring that a Solar Collection System located in the Agricultural Reserve zone only be an accessory use.** The ZTA retains language allowing a Solar Collection System as an accessory use in the Agricultural Reserve, Rural Residential, Residential, Commercial/Residential, Employment, and Industrial zones but does not require such. In addition to the current standards for a Solar Collection System in the non-Agricultural Reserve zones (see bullet below), the limited use standards for solar as a principle use in the Agricultural Reserve zone include several of the applicable existing accessory use standards (written authorization from the local utility company when proposed to be connected to the grid, and prohibition of the removal of trees or landscaping otherwise required or attached as a condition of approval of any plan, application, or permit), and two additional standards requiring that: the site be designated pollinator-friendly under the Maryland Pollinator-Friendly Designation Program<sup>1</sup> (except as allowed under Subsection 59.7.3.4.E.5.b., site plan review, necessary findings); and cumulatively, on all AR zoned land, a maximum of 1,800 acres of land may be covered by solar panels. Under the Necessary Finding for site plan review, property zoned AR proposed for use as a Solar Collection system must: minimize grading and any soil removal; and be designated pollinator-friendly under the Maryland Pollinator-Friendly Designation Program, or any land on which the solar generation facility is located that is not designated as pollinator friendly must be planted, managed, and maintained in a manner suitable for grazing farm animals. (*Lines 12-36, 48-77 and 84-92*)
- **In Rural Residential, Residential, Commercial/Residential, Employment and Industrial zones, where a Solar Collection System is allowed as a limited use, the ZTA continues to allow the use as an accessory use or as a principle use.** As an accessory use, the standards as proposed under

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<sup>1</sup> The Pollinator-Friendly Designation Program bill (SB 1158) was signed by Governor Larry Hogan in May 2017. SB 1158 established a pollinator-friendly designation program for commercial ground-mounted solar facilities. The bill has a scorecard attached which will serve as the initial basis for pollinator-friendly designation of a site.

Subsection 3.7.2.B.2.a. apply (all of which were originally included under the accessory use provisions under the Agricultural Reserve zone). These include:

- the system produces a maximum of 120% of on-site energy consumption;
- encroachment allowed under Section 4.1.7.B.5.C (*may project a maximum of 3 feet into any side setback, or any side street setback of less than 25 feet and may project a maximum of 9 feet into any front setback, rear setback, or any side street setback where the side street setback is a minimum of 25 feet*); and
- a maximum height allowed under 4.1.7.C.3.b. (*maximum height does not apply to solar panels, except in the CRT, CR, Employment, and Industrial zones, solar panels may exceed the established height limit by up to 8 feet, except when located within an airport approach area*)

As a principle use, the following limited use standards apply (*Lines 48-77*):

- Site plan approval is required
- The site must be a minimum of 3 acres in size
- All structures must be: 20 feet in height or less; at least 50 feet from any property line; and surrounded by a minimum 6-foot-tall fence. **Staff believes that fencing should not be allowed to surround a Solar Collection System in the AR zone, as this standard would be unsuitable for establishing grazing for animals. Staff has modified the ZTA to reflect this recommendation.**
- If located in an area visible to an abutting residential use or a road: only solar thermal or photovoltaic panels or shingles may be used; the panels or shingles must use textured glass or an anti-reflective coating; and screening that satisfies Section 59.6.5.3.C.8 (Option A) on the sides of the facility visible from the residential use or road is required (minimum depth of screening must be between 30 and 50 feet and must include a 6 foot in height fence or wall).
- The Solar Collection System must be removed within 12 months of the date when the use is discontinued or abandoned by the system owner or operator, or upon termination of the useful life of the system.
- A system designed to produce more than 2 megawatts (AC) may be allowed as a public utility use.

### Community Correspondence

Concerns have been expressed about ZTA 20-01 in that it: would take fertile farmland out of production; would price farmers out of the Ag Reserve; would possibly damage habitats and forests; is not in line with the master plan; takes green space and sites panels far from power infrastructure.

The comments further recommend that this ZTA be tabled until the Climate Action Plan Technical Workgroups<sup>2</sup> have proposed their comprehensive recommendations for how the County can reduce its carbon emissions. They believe that this County-funded, collaborative and public effort should guide next steps.

### Staff Comments

As written, the ZTA requires all Solar Collection Systems (SCS) located in the AR Zone to be Pollinator-Friendly or suitable for grazing. The text makes no distinction as to whether this applies to an accessory SCS and a SCS as a principle use or to only the SCS as a principle use. Staff assumes that this standard would apply only to a SCS as a principle use given that the Pollinator-Friendly Program is intended for commercial ground-mounted solar facilities. ***Staff recommends clarifying the ZTA language to reflect that only in the case of a SCS as a principle use is the ground beneath the panels required to include pollinator-friendly plants or be suitable for grazing of animals. In addition, staff not only believes that land could be made suitable for grazing of animals, but also could be made suitable for crop production. Staff has modified the ZTA language to reflect this recommendation.***

The ZTA also carries forward existing restrictions on accessory SCSs in the AR zone (written authorization from the local utility company when connected to the grid, and a prohibition of the removal of trees or landscaping otherwise required or attached as a condition of approval of any plan, application, or permit) for any SCS in the AR zone. ***Staff believes that these two restrictions should be applied to SCSs in all zones.***

**Staff further recommends the following additional standards for the placement of a Solar Collection System as a principle use in the AR Zone:**

- 1) The use must not be located within a scenic view identified in the Rustic Roads Functional Master Plan**
- 2) The use must not be located on Prime Agricultural Soils as identified by USDA or Montgomery County Soil Conservation Service**
- 3) The use must not be located on naturally occurring slopes in excess of 8%**
- 4) The use must not be located on soils that are seasonally flooded or saturated as identified by USDA or Montgomery County Soil Conservation Service**

### Conclusion

Staff believes that ZTA 20-01 – with the recommended modifications – can strike a balance in addressing the desire to provide more solar production opportunities in the County, including the ability to provide

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<sup>2</sup> In July 2019, Montgomery County launched a planning process to develop prioritized actions and strategies to meet the County's greenhouse gas emissions reduction goals. The County intends to finalize a Climate Action Plan by December of 2020 that will provide a roadmap to achieve carbon neutrality and will also include recommendations for adapting to a changing climate. (For more information, visit <https://www.montgomerycountymd.gov/green/climate/climate-action-planning.html>.)

“Community Solar” benefits to those who can't, or prefer not to, install solar panels on their homes, with the protection measures for properties that are near these facilities. In the case of solar facilities that are not accessory to a principle use, the legislation continues to require site plan approval and provides limitations on the size of the overall system and the height of any freestanding structure.

For a Solar Collection System located in the AR zone, in addition to the aforementioned standards, inclusion of a requirement that the ground underneath the panels have pollinator-friendly plants or is suitable for grazing or crop production, that soil and tree removal is minimized, and that a limitation be placed on the amount of agricultural land that can be developed as a Solar Collection System, further assists in reducing the impacts of solar collection as a principle use in the AR zone. Staff believes that the limited area recommended for inclusion for potential development of Solar Collection Systems in the AR zone (1,800 acres or approximately two percent of the total 93,000 acres of the Agricultural Reserve) represents a small enough area of the Agricultural Reserve to not significantly compromise the **Master Plan for Preservation of Agricultural and Rural Open Space’s** designation of farm land and agriculture as the preferred land use in the Agricultural Reserve.

Staff has included, as a modification to the ZTA (Attachment 1), *clarifying language to reflect that only in the case of a Solar Collection System as a principle use is the ground beneath the panels required to include pollinator-friendly plants or is made suitable for grazing of animals or crop production. Staff also believes that the language currently proposed only for the AR zone that requires written authorization from the local utility company when a Solar Collection System is proposed to be connected to the grid, and the language prohibiting the removal of trees or landscaping otherwise required or attached as a condition of approval of any plan, application, or permit, should be included for all zones.*

Staff has also included in the modified ZTA language, several additional standards that further protect the integrity of the Agricultural Reserve. These standards pertain to protection of scenic views, discouraging development on prime agricultural soils, prohibiting development on slopes greater than 8% and prohibiting development on soils that have been delineated as seasonally flooding or saturated.

#### Attachments

1. ZTA No. 20-01 as modified by staff.

# ATTACHMENT 1

Zoning Text Amendment No.: 20-01  
Concerning: Solar Collection System –  
AR Zone Standards  
Draft No. & Date: 5 – 1/21/20  
Introduced: January 21, 2020  
Public Hearing:  
Adopted:  
Effective:

**COUNTY COUNCIL FOR MONTGOMERY COUNTY, MARYLAND  
SITTING AS THE DISTRICT COUNCIL FOR THAT PORTION OF  
THE MARYLAND-WASHINGTON REGIONAL DISTRICT WITHIN  
MONTGOMERY COUNTY, MARYLAND**

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Lead Sponsors: Councilmember Riemer and Council Vice President Hucker  
Co-Sponsor: Councilmember Rice

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**AN AMENDMENT** to the Montgomery County Zoning Ordinance to:

- revise the Solar Collection System use standards to allow larger facilities in the AR zone;
- amend the provisions for Solar Collection Systems in other zones; and
- amend the provisions for site plan approval in the AR zone.

By amending the following sections of the Montgomery County Zoning Ordinance, Chapter 59 of the Montgomery County Code:

Division 3.7.	“Miscellaneous Uses”
Section 3.7.2.	“Solar Collection System”
Division 7.3.	“Regulatory Approvals”
Section 7.3.4.	“Site Plan”

**EXPLANATION:** **Boldface** indicates a Heading or a defined term.  
Underlining indicates text that is added to existing law by the original text amendment.  
**[Single boldface brackets]** indicate text that is deleted from existing law by original text amendment.  
Double underlining indicates text that is added to the text amendment by amendment.  
**[[Double boldface brackets]]** indicate text that is deleted from the text amendment by amendment.  
\* \* \* indicates existing law unaffected by the text amendment.

*ORDINANCE*

*The County Council for Montgomery County, Maryland, sitting as the District Council for that portion of the Maryland-Washington Regional District in Montgomery County, Maryland, approves the following ordinance:*



1           **Sec. 1. DIVISION 59-3.7 is amended as follows:**

2   **Division 3.7. Miscellaneous Uses**

3   \*   \*   \*

4   **Section 3.7.2. Solar Collection System**

5   **A.    Defined**

6           Solar Collection System means an arrangement of panels or other solar  
7           energy devices that provide for the collection, inversion, storage, and  
8           distribution of solar energy for electricity generation, space heating, space  
9           cooling, or water heating. A Solar Collection System includes freestanding  
10          or mounted devices.

11   **B.    Use Standards**

12          Where a Solar Collection System is allowed as a limited use, it must satisfy  
13          the following standards:

14          1.     In the Agricultural Reserve zone, all of the standards in Subsection  
15                 3.7.2.B.2 and the following standards apply:

16                 [a.     A Solar Collection System must be an accessory use as defined  
17                         in Section 3.1.3.]

18                 [b][a. Written authorization from the local utility company must be  
19                         provided for a Solar Collection System that will be connected  
20                         to the utility grid.

21                 [c]b. Removal of trees or landscaping otherwise required or attached  
22                         as a condition of approval of any plan, application, or permit for  
23                         the installation or operation of a Solar Collection System is  
24                         prohibited.]]

25                 [d.     Solar panels may encroach into a setback as allowed under  
26                         Section 4.1.7.B.5.c and may exceed the maximum height as  
27                         allowed under Section 4.1.7.C.3.b.]

- 28 [e. A freestanding Solar Collection System is allowed only as an  
29 accessory use where the system produces a maximum of 120%  
30 of on-site energy consumption and must satisfy the same  
31 development standards as an accessory structure.]
- 32 a. Except as allowed under Subsection 59.7.3.4.E.5.b, the site of a  
33 Solar Collection System as a principle use must be designated  
34 pollinator-friendly under the Maryland Pollinator-Friendly  
35 Designation Program.
- 36 b. Cumulatively, on all AR zoned land, a maximum of 1,800 acres  
37 of land may be covered by solar panels.
- 38 c. Notwithstanding the standards in Subsections 3.7.2.B.2.b.iv.C  
39 and 3.7.2.B.2.b.v.C, a Solar Collection System located on AR  
40 zoned land must not be surrounded with a fence or wall.
- 41 2. In Rural Residential, Residential, Commercial/Residential,  
42 Employment, and Industrial zones, where a Solar Collection System is  
43 allowed as a limited use, [it must either satisfy Subsection  
44 59.3.7.2.B.1.a through Subsection 59.3.7.2.B.1.e or] it must satisfy the  
45 following standards in either subsection a or b:
- 46 a. The Solar Collection System must be an accessory use as  
47 follows:
- 48 i. the system produces a maximum of 120% of on-site  
49 energy consumption;
- 50 ii. encroachment allowed under Section 4.1.7.B.5.C; and  
51 iii. a maximum height allowed under 4.1.7.C.3.b.
- 52 iv Written authorization from the local utility company  
53 must be provided for a Solar Collection System that will  
54 be connected to the utility grid.

- 55                    v.     Removal of trees or landscaping otherwise required or  
56                    attached as a condition of approval of any plan,  
57                    application, or permit for the installation or operation of a  
58                    Solar Collection System is prohibited.
- 59                    b.     The Solar Collection System must satisfy the following  
60                    standards:
- 61                    [a]    i.     Site plan approval is required under Section 7.3.4.
- 62                    [b]    ii.    The site must be a minimum of 3 acres in size.
- 63                    [c]    iii.   The system may produce a maximum of 2 megawatts  
64                    (AC).
- 65                    [d]    iv.    All structures must be:
- 66                    [i]    A.    20 feet in height or less;
- 67                    [ii]   B.    located at least 50 feet from any property line; and
- 68                    [iii]   C.    surrounded by a minimum 6-foot-tall fence.
- 69                    [e]    v.     If a structure for a Solar Collection System is located in  
70                    an area visible to an abutting residential use or a road:
- 71                    [i]    A.    only solar thermal or photovoltaic panels or  
72                    shingles may be used;
- 73                    [ii]   B.    the panels or shingles must use textured glass or an  
74                    anti-reflective coating; and
- 75                    [iii]   C.    screening that satisfies Section 59.6.5.3.C.8  
76                    (Option A) on the sides of the facility visible from  
77                    the residential use or road is required.
- 78                    [f]    vi.    The Solar Collection System must be removed within 12  
79                    months of the date when the use is discontinued or  
80                    abandoned by the system owner or operator, or upon  
81                    termination of the useful life of the system. The Solar

82 Collection System will be presumed to be discontinued  
83 or abandoned if no electricity is generated by the system  
84 for a period of 12 continuous months.

85 [g] vii. If licensed by the Public Service Commission, [A] a  
86 system designed to produce more than 2 megawatts (AC)  
87 [may be allowed as a public utility use under Section  
88 3.6.7.E] is not restricted by Chapter 59.

89 viii. Written authorization from the local utility company  
90 must be provided for a Solar Collection System that will  
91 be connected to the utility grid.

92 ix. Removal of trees or landscaping otherwise required or  
93 attached as a condition of approval of any plan,  
94 application, or permit for the installation or operation of a  
95 Solar Collection System is prohibited.

96 x. The Solar Collection System must not be located within a  
97 scenic view identified in the Rustic Roads Functional  
98 Master Plan.

99 xi. The Solar Collection System must not be located on  
100 Prime Agricultural Soils as identified by the United  
101 States Department of Agriculture (USDA) or the  
102 Montgomery County Soil Conservation Service.

103 xii. The Solar Collection System must not be located on  
104 naturally occurring slopes in excess of 8%.

105 xiii. The Solar Collection System must not be located on soils  
106 that are seasonally flooded or saturated as identified by  
107 the USDA or the Montgomery County Soil Conservation  
108 Service.

109 \* \* \*

110 **Sec. 2. DIVISION 59-7.3 is amended as follows:**

111 **Division 7.3. Regulatory Approvals**

112 \* \* \*

113 **Section 7.3.4. Site Plan**

114 \* \* \*

115 **E. Necessary Findings**

116 \* \* \*

117 **5. For property zoned AR proposed for use as a Solar Collection system:**

118 **a. grading and any soil removal will be minimized; and**

119 **b. the site must be designated pollinator-friendly under the**  
120 **Maryland Pollinator-Friendly Designation Program, or any land**  
121 **on which the solar generation facility is located that is not**  
122 **designated as pollinator friendly must be planted, managed, and**  
123 **maintained in a manner suitable for grazing farm animals or for**  
124 **crop production.**

125 \* \* \*

126 **Sec. 3. Reporting.** On April 1, 2021 and annually thereafter, the  
127 Department of Permitting Services must report to the County Council the total  
128 acreage of Solar Collection System permits in the Agricultural Reserve approved  
129 by the Department since the effective date of ZTA 20-01.

130 **Sec. 4. Effective date.** This ordinance becomes effective 20 days after the  
131 date of Council adoption.

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133 This is a correct copy of Council action.

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135

136 Selena Mendy Singleton, Esq.  
137 Clerk of the Council