

**AGENDA
CITY OF MAPLEWOOD
ENVIRONMENTAL AND NATURAL RESOURCES COMMISSION**

Monday, October 18, 2021

7:00 p.m.

**Maplewood City Council Chambers
1803 County Road B East**

1. Call to Order
2. Roll Call
3. Approval of Agenda
4. Approval of Minutes:
 - a. September 20, 2021
5. New Business
 - a. Resolution of Appreciation for Keith Buttleman
6. Unfinished Business
 - a. Renewable Energy Ordinance and SolSmart Certification
7. Visitor Presentations
8. Commissioner Presentations
9. Staff Presentations (oral reports only)
 - a. Update on Harvest Park Native Seed Garden Event Held on October 7
 - b. Fall Clean Up Campaign
 - 1) Update on Shredding Event Held on October 9
 - 2) Reduced Price Bulky Item Collection – Throughout October
 - 3) Free Mattress Collection – Throughout October
 - c. Solar Power Hour
 - 1) Update on Virtual Solar Power Hour Held Friday October 8
 - 2) On Site Solar Power Hour to be held at Nature Center on October 26
 - d. Metro Clean Energy Resource Teams Seed Grant Application
 - e. ENR Commissioner Interviews (October 25) and Appointments (November 8)
10. Adjourn

**MINUTES
CITY OF MAPLEWOOD
ENVIRONMENTAL AND NATURAL RESOURCES COMMISSION
1830 COUNTY ROAD B EAST, MAPLEWOOD, MINNESOTA
MONDAY, SEPTEMBER 20, 2021
7:00 P.M.**

1. CALL TO ORDER

A meeting of the Environmental and Natural Resources Commission was called to order at 7:00 p.m. by Chairperson Palzer.

2. ROLL CALL

Rebecca Bryan, Commissioner	Present
Keith Buttleman, Commissioner	Absent
Kayla Dosser, Vice Chairperson	Present
Mollie Miller, Commissioner	Absent
Ann Palzer, Chairperson	Present
Ted Redmond, Commissioner	Present

Staff Present

Shann Finwall, Environmental Planner

3. APPROVAL OF AGENDA

Commissioner Redmond moved to approve the agenda.

Seconded by Vice Chairperson Bryan. Ayes – All

The motion passed.

4. APPROVAL OF MINUTES

Commissioner Dosser moved to approve the August 16, 2021, Environmental and Natural Resources Commission meeting minutes as submitted.

Seconded by Commissioner Redmond. Ayes – All

The motion passed.

5. NEW BUSINESS

- a. Wetland Buffer Variance for a New Single Family House - 1091 County Road C

Environmental Planner Finwall presented the details of the variance. The applicants are proposing to build a new single-family house on the lot at 1091 County Road C. There is a Manage A wetland on the north side of the lot, adjacent Kohlman Lake.

Grading for the house will come to within 30 feet of the edge of the wetland, which requires a 45-foot wetland buffer variance.

Katie Schurrer and Justin Haynes, owners of the lot, and their architect, Will Spencer, addressed the Commission.

The ENR Commission reviewed the wetland buffer mitigation strategies outlined in the staff report including adding 1,000 square feet of native plantings adjacent the wetland. Discussion on the following items:

- Native plantings to be located along the edge of the reed canary grass, within 1,000 square feet of previously mowed lawn.
- Rain gardens would not be effective at capturing stormwater due to the grade of the lot.
- Future dock options including sharing a dock with the neighbor and limited impacts to the wetland buffer with a floating dock or dock built on piers.
- There are many benefits to adding native plants including acting as a filter to the stormwater and creating habitat and food for pollinators.

Commissioner Dosser moved to approve the wetland buffer variance and wetland buffer mitigation strategies for a new house at 1091 County Road C.

Seconded by Commissioner Bryan.

Ayes – Dosser, Bryan, Palzer.

Nay – Redmond

The motion passed.

6. NEW BUSINESS

None.

7. VISITOR PRESENTATIONS

None.

8. COMMISSIONER PRESENTATIONS

None.

9. STAFF PRESENTATIONS

- a. Fall Clean Up Campaign
- 1) Reduced Price Bulky Item Collection – Throughout October
 - 2) Free Mattress Collection – Throughout October
 - 3) Free Shredding Event – October 9

Environmental Planner Finwall gave details on the Fall Clean Up Campaign. More information can be found at www.maplewoodmn.gov/cleanups.

b. Harvest Park Native Seed Garden Open House – October 7

Environmental Planner Finwall said that an Urban Roots Youth Group would be present at the Harvest Park Native Seed Garden on October 7 from 5:30 to 6:30 p.m. They will give a history of the garden, seed gathering demonstration, offer tips on caring for a native plant garden, and identify the native plants on site.

c. Solar Power Hours – October 8 and 26

Environmental Planner Finwall said Maplewood is collaborating with Midwest Renewable Energy Association to offer two Solar Power Hours. A virtual event on October 8 and an in-person event at the Nature Center on October 26.

d. ENR Commission Vacancies

Environmental Planner Finwall said Commissioner Buttleman's term ends September 30, 2021. He has chosen not to seek reappointment. That leaves two Commission vacancies on the ENR Commission. The City Council will be interviewing Commission applicants soon.

e. Update on the Mississippi River Corridor Critical Area and Slopes and Bluffs Ordinances

Environmental Planner Finwall said the Planning Commission will hold a public hearing on the MRCCA and Slopes and Bluffs Ordinances on September 21, 2021. The City Council will review the ordinance on September 27, 2021. Once approved, the ordinance will be forwarded to the Department of Natural Resources by the deadline of October 1, 2021.

10. ADJOURNMENT

Commissioner Dosser made a motion to adjourn the meeting.

Seconded by Vice Chairperson Bryan.

Ayes – All

The motion passed.

The meeting was adjourned by Chairperson Palzer at 7:53 p.m.

ENVIRONMENTAL & NATURAL RESOURCES COMMISSION STAFF REPORT
Meeting Date October 18, 2021

REPORT TO: Environmental and Natural Resources Commission
REPORT FROM: Shann Finwall, AICP, Environmental Planner
PRESENTER: Shann Finwall, AICP, Environmental Planner
AGENDA ITEM: Resolution of Appreciation for Keith Buttleman

Action Requested: Motion Discussion Public Hearing
Form of Action: Resolution Ordinance Contract/Agreement
Proclamation

Policy Issue:

When citizen members end their time of service on a commission, the City considers adoption of a resolution of appreciation recognizing the individual for their time committed to serving Maplewood.

Recommended Action:

Motion to recommend approval of a Resolution of Appreciation for Keith Buttleman.

Fiscal Impact:

Is There a Fiscal Impact? No Yes, the true or estimated cost is \$0
Financing source(s): Adopted Budget Budget Modification New Revenue Source
 Use of Reserves Other: n/a

Strategic Plan Relevance:

Financial Sustainability Integrated Communication Targeted Redevelopment
 Operational Effectiveness Community Inclusiveness Infrastructure & Asset Mgmt.

The City appreciates its citizen volunteers and provides recognition for members upon resignation.

Background

Keith Buttleman resigned as a member of the Environmental and Natural Resources Commission on September 30, 2021. Mr. Buttleman served on the Commission for five years and eight months, from January 25, 2016, to September 30, 2021.

Attachments

1. Resolution of Appreciation for Keith Buttleman

RESOLUTION OF APPRECIATION

WHEREAS, Keith Buttleman has been a member of the Maplewood Environmental and Natural Resources Commission for five years and eight months, serving from January 25, 2016, to September 30, 2021. Mr. Buttleman has served faithfully in those capacities; and

WHEREAS, the Environmental and Natural Resources Commission and City Council have appreciated his experience, insights and good judgment; and

WHEREAS, Mr. Buttleman has freely given of his time and energy, without compensation, for the betterment of the City of Maplewood; and

WHEREAS, Mr. Buttleman has shown dedication to his duties and has consistently contributed his leadership and efforts for the benefit of the City.

NOW, THEREFORE, IT IS HEREBY RESOLVED for and on behalf of the City of Maplewood, Minnesota, and its citizens that Keith Buttleman is hereby extended our gratitude and appreciation for his dedicated service.

*Passed by the Maplewood
City Council on October 25, 2021*

Marylee Abrams, Mayor

Attest:

Andrea Sindt, City Clerk

ENVIRONMENTAL & NATURAL RESOURCES COMMISSION STAFF REPORT

Meeting Date October 18, 2021

REPORT TO: Environmental and Natural Resources Commission
REPORT FROM: Shann Finwall, AICP, Environmental Planner
PRESENTOR: Shann Finwall, AICP, Environmental Planner
AGENDA ITEM: Renewable Energy Ordinance and SolSmart Certification

Action Requested: Motion Discussion Public Hearing
Form of Action: Resolution Ordinance Contract/Agreement Proclamation

Policy Issue:

The renewable energy ordinance was adopted in October 2011. The ordinance assists the City in the promotion of renewable energy sources while addressing regulations for wind, solar, and geothermal. The Environmental and Natural Resources completed a review of that ordinance in 2018.

Recommended Motion:

Review and discuss the Renewable Energy Ordinance and SolSmart Program.

Fiscal Impact:

Is There a Fiscal Impact? No Yes, the true or estimated cost is n/a
 Financing source(s): Adopted Budget Budget Modification New Revenue Source
 Use of Reserves Other: n/a

Strategic Plan Relevance:

Financial Sustainability Integrated Communication Targeted Redevelopment
 Operational Effectiveness Community Inclusiveness Infrastructure & Asset Mgmt.

Renewable energy is a valuable resource. Removing barriers to this resource will ensure community inclusiveness. It will allow all residents and businesses to capture the benefits of appropriately designed and sited renewable energy sources. Operational effectiveness will be achieved with the removal of barriers and promotion of renewable energy. It will assist the City in meeting its Comprehensive Plan energy goals. One of the goals states that the City will encourage and support renewable energy by obtaining a minimum of 50 percent of all electric energy from renewable sources by 2040.

Background

Energy Planning

The Sustainability Chapter of the City's 2040 Draft Comprehensive Plan outlines energy goals and policies (https://maplewoodmn.gov/DocumentCenter/View/22480/09_Sustainability-PDF?bidId=). One of the goals is to encourage and support renewable energy by obtaining a minimum of 50 percent of all electric energy from renewable sources by 2040.

Local governments have influence over renewable energy growth. Unnecessary paperwork, red tape, and other requirements increase costs and discourage renewable energy companies from moving to the area. Streamlining the requirements and taking other steps to encourage renewable energy development will help the City meet its renewable energy goals and promote economic development and new jobs.

2011 Renewable Energy Ordinance

The City Council adopted the Renewable Energy Ordinance on October 10, 2011. The ordinance applies to the regulations for renewable energy systems including wind turbines, solar systems, and geothermal ground-source heat pumps. The renewable energy regulations are intended to supplement existing zoning ordinances and land use practices, and ensure these systems are appropriately designed, sited, and installed.

SolSmart Program

Program Designation

SolSmart (<https://solsmart.org/>) is a national program led by the International City/County Management Association and the Interstate Renewable Energy Council, along with a team of partners with expertise in solar energy and local governments. SolSmart uses objective criteria to designate communities that have successfully met the goals of the program. Communities receive designations of SolSmart Gold, Silver, and Bronze. Since the program launched in 2016, more than 400 cities, counties, and regional organizations in 41 states, the District of Columbia, and the U.S. Virgin Islands have achieved SolSmart designation, representing over 99 million people.

Maplewood has completed 215 SolSmart credits and has received the Silver designation (see attached summary). Following are the highlights of the City's action items:

1. Creation of an online permitting checklist, increasing transparency for community members and solar installers.
2. SolSmart review of local zoning codes and identification of restrictions that intentionally or unintentionally prohibit solar PV development.
3. Allow solar by-right accessory use in all zones (so solar installations don't require special permits or hearings)
4. Cross-trained both inspection and permitting staff on solar PV.

The Gold designation requires two prerequisites and 200 total points. In order to qualify for Gold Maplewood would need to complete one additional pre-requisite as follows: "Post an online statement confirming a three-business day turnaround time for small rooftop solar PV".

Small Rooftop Solar Permits

The SolSmart Program states that the number one way local governments can influence solar development is through the permitting and inspection process. Cities have direct oversight of permitting and inspection. Streamlining the process to facilitate solar energy construction, without compromising safety standards, can dramatically reduce the time and expense for solar installations. Conversely, an unnecessarily cumbersome process can delay installations and increase costs for consumers.

In 2018, the City reviewed its solar permitting process and fees. Depending on the complexity of the solar permit and how many other permits the City was reviewing, a solar permit averaged one to two weeks to process. Additionally, since the City contracts its electrical inspections, a solar system requires two permits – a solar permit and an electrical permit, both with their own review process and timeline. The cost of the permit was based on the cost of the project. From that review, the City was able to streamline the fee structure for residential solar systems, charging a \$200 flat fee. However, the process and timing of permit reviews has not changed.

To meet the gold designation the City would have to process small solar system permits in three business days. SolSmart outlines ways to accomplish this through a permit process intended to simplify the structural and electrical review, establish guidelines to determine when a solar system is within the boundaries of typical, well-engineered systems, and minimize the need for detailed engineering studies and unnecessary delays. The streamlined process is not intended to circumvent the engineering process, but show clear conformity to code requirements. The process is outlined on their website at www.solsmart.org/permitting.

Another resource for the City is the new solar permitting app (<https://solarapp.nrel.gov/>). The National Renewable Energy Laboratory launched a collaborative effort with key code officials, authorities having jurisdiction, and the solar industry to develop standardized plan review software that can run compliance checks and process building permit approvals for eligible rooftop solar systems. The app can integrate with existing government software; automate plan review, permit approval, and project tracking; standardize up to 90% of standard system plans; and includes an inspection checklist verification and final sign-off after installation.

Staff will review ways to streamline the small solar system permitting process with the building official in the coming months. Updates on possible solutions will be presented to the ENR Commission.

Program Updates

New SolSmart criteria was released on January 4, 2021. A comparison of the old and new criteria is attached. Cities that are already in the SolSmart program can continue with the legacy credits and application until December 31, 2021. The additional pre-requisite required by the City to process small solar systems within three business days in order to achieve the Gold designation has not changed from the legacy to the new criteria and will not impact Maplewood's efforts to improve our standing.

Cities are not required to renew their designation criteria annually. However, SolSmart does reach out at least annually to check in and see how they can support and elevate the work we are doing, or move a City up in designation if applicable. SolSmart experts are working with the City now on those reviews.

Renewable Energy Ordinance

2018 Review

In 2018 the SolSmart national solar experts reviewed Maplewood's 2011 solar regulations to assess possible obstacles (i.e. height restrictions, setback requirements, etc.) and gaps. They outlined the following issues:

1. On and off site solar: The ordinance restricts solar energy systems to on-site use, precluding off-site, shared, or community solar facilities.
2. No exemptions provided: No exemptions or allowances are provided for height, setback, or lot coverage for solar energy systems.
3. Visibility restrictions and screening requirements: The wording "solar energy systems shall be designed to blend into the architecture of the building or be screened from routine view from public right-of-ways other than alleys " could be interpreted to prevent a rooftop system that is no flush mounted.

Throughout 2018 the Environmental and Natural Resources Commission reviewed the 2011 Renewable Energy Ordinance and recommended changes based on the SolSmart review and new renewable energy technologies and information available since 2011 (refer to draft ordinance attached). The draft ordinance still needs to be reviewed and approved by the City Council.

2021 Review

Staff asked the SolSmart experts to review the 2018 amended ordinance since it has been three years since the ENR Commission's review and recommendation. SolSmart reviewed the solar section of the ordinance and recommended the inclusion of explicit visibility allowances/restrictions for ground-mounted solar systems that are not community solar gardens. Examples include ground mounted residential solar systems that include two units (one in the front yard and one in the back yard as an example), or a solar carport in a residential, commercial, or industrial context.

Attachments

1. Maplewood SolSmart Designation Criteria
2. SolSmart Program Criteria Changes
3. Comparison of the Existing (2011) and Amended Draft (2018) Renewable Energy Ordinance

SOLSMART APPLICATION PREREQUISITE SUMMARY



Results for Maplewood, MN

Bronze Requirements	Validation Status
PR-1: Solar Statement	Done
P-1: Solar Permitting Checklist	Done
PZD-1a: Zoning Review Memo	Done
20 points in Permitting	Done (25 points achieved)
20 points in Planning Zoning and Development Review	Done (45 points achieved)
20 points in Special Focus Categories	Done (145 points achieved)

Silver Requirements	Validation Status
Bronze Designation requirements	Done
PZD-2: Allow solar by-right and as an accessory use in all major zones	Done
I-1: Provide cross-training of inspection and permitting staff on solar PV	Done
100 points	Done (215 points achieved)

Gold Requirements	Validation Status
Silver Designation requirements	Done
P-2: Provide a streamlined permitting pathway for small PV systems (no more than 3 days)	Incomplete
200 points	Done (215 points achieved)

% of total points available achieved in each category	Points achieved	% of total available
Permitting	25	19%
Planning /Zoning	45	30%
Inspection	20	25%
Construction	-	0%
Solar Rights	15	30%
Utility Engagement	30	43%
Community Engagement	35	18%
Market Development & Finance	45	27%

Updated SolSmart Criteria

January 2021

After nearly a year of review and edits, the updated SolSmart criteria for the standard pathway was released January 4, 2021. Those who are already in the SolSmart program can continue with the legacy credits and application until December 31, 2021 at legacy.solsmart.org.

Former Categories
Permitting
Planning, Zoning, and Development Regulations
Inspection
Construction Codes
Solar Rights
Utility Engagement
Community Engagement
Market Development and Finance



New Categories
Permitting and Inspection
Planning and Zoning
Government Operations
Community Engagement
Market Development



There are three levels of SolSmart designation for local governments.
Below are the requirements for each level

Bronze	60 Total Points	3 Prerequisite Credits
	<input type="checkbox"/> 20 Points in Permitting & Inspection <input type="checkbox"/> 20 Points in Planning & Zoning <input type="checkbox"/> 20 Points from any Special Focus category	<input type="checkbox"/> Complete the Solar Statement (PR-1) <input type="checkbox"/> Complete solar permitting checklist (PI-1) <input type="checkbox"/> Complete zoning review (PZ-1)
Silver	100 Total Points	3 Prerequisite Credits
	<input type="checkbox"/> Complete bronze designation requirements	<input type="checkbox"/> Complete permit staff training (PI-2) <input type="checkbox"/> Complete inspection staff training (PI-3) <input type="checkbox"/> Complete zoning clarification (PZ-4)
Gold	200 Total Points	2 Prerequisite Credits
	<input type="checkbox"/> Complete silver designation requirements	<input type="checkbox"/> Complete permit turnaround time (PI-4) <input type="checkbox"/> Complete solar in zoning (PZ-5)

Special Award: Communities that earn 60% of the available points in a category are eligible for special recognition.

Permitting & Inspection

Old Credit	Old Points	Old Language	New Language	New Credit	New Points
P-1	0	Post an online checklist detailing the required permit(s), submittals, and steps of your community's permitting process for small rooftop solar PV. (Required for Bronze)	No Change	PI-1	0
P-2	20	Post an online statement confirming a three-business day turnaround time for small rooftop solar PV. (Required for Gold)	No Change	PI-2	20
P-8	10	Train permitting staff on best practices for permitting solar PV and/or solar and storage systems. Training must have occurred in the past five years. (Required for Silver)	No Change	PI-3	10
I-1	20	Train inspection staff on best practices for permitting and inspecting solar PV and/or solar and storage systems. Training must have occurred within the past five years. (Required for Silver and Gold)	Train inspection staff on best practices for inspecting solar PV and/or solar and storage systems. Training must have occurred within the past five years. (Required for Silver)	PI-4	10
P-3	5	Distinguish between solar PV systems qualifying for streamlined and standard permit review.	No Change	PI-5	5
P-4	5	Require no more than one permit application form for a small rooftop solar PV system.	No Change	PI-6	5
P-7	10	Adopt a standard solar PV permit application form aligned with best practices (e.g. Solar ABCs).	No Change	PI-7	10
P-11	20	Provide an online process for solar PV permit submission and approval.	No Change	PI-8	20
P-5a	5 > 20	Review permit fees for residential and commercial solar PV. Compile findings in a memo.	Exempt or waive fees for residential solar PV permit applications.	PI-9	20
P-5b	5	Earn additional points: Demonstrate that residential permit fees for solar PV are \$400 or less.	Demonstrate that residential permit fees for solar PV are \$500 or less.	PI-10	5
P-5c	5 > 10	Earn additional points: Demonstrate that commercial permit fees for solar	Demonstrate that commercial permit fees for solar PV are based on cost-	PI-11	10

		PV are based on cost-recovery and capped at a reasonable level so fees do not become a net revenue source. (e.g. fees cover the cost of the staff time required to review and process the permit application).	recovery and capped at a reasonable level so fees do not become a net revenue source. (e.g. fees cover the cost of the staff time required to review and process the permit application).		
I-4	10	Post solar PV inspection requirements online, including the inspection process and what details inspectors will review.	No Change	PI-12	10
I-2	10	Require no more than two inspections for accessory use solar PV.	Require no more than two inspections for small rooftop solar PV.	PI-13	10
I-3	10	Offer inspection appointment times in lieu of appointment windows for solar PV.	No Change	PI-14	10
I-6	20 > 10	Provide an online process for solar PV inspection scheduling.	No Change	PI-15	10
P-9	10	Train fire and safety staff on solar PV and/or solar and storage systems. Training must have occurred within the past five years.	No Change	PI-16	10
		New	Train fire and safety staff on specific plans and procedures for responding to an emergency at a large-scale solar PV system within the jurisdiction. (This may include a walk-through of the site, coordinated with the project's owner/operator).	PI-17	10
P-12a	10	Share site specific solar PV and/or solar and storage permit data, including addresses, with first responders and their departments. (e.g. Through software that allows users to view searchable, filterable data about a specific site and system).	No Change	PI-18	10
		New	Post an online checklist detailing the required permit(s), submittals, and steps of your community's energy storage system permitting process	PI-19	10
		New	Post energy storage system inspection requirements online, including the inspection process and what details inspectors will review.	PI-20	10

Planning and Zoning

Old Credit	Old Points	Old Language	New Language	New Credit	New Points
PZD-1a	0	Review zoning requirements and identify restrictions that intentionally or unintentionally prohibit solar PV development. Compile findings in a memo. (Required for Bronze)	No Change	PZ-1	0
PZD-1b	5	Present PZ-1 memo findings to planning commission or relevant body	No Change	PZ-2	5
PZD-1c	5	Draft proposed language for changes to zoning code based on PZ-1 memo and PZ-2 dialogue. Involve planners and/or local zoning experts in the creation of the draft language.	No Change	PZ-3	5
PZD-2a	0	Post an online document from the Planning/Zoning Department that states accessory use solar PV is allowed by-right in all major zones (e.g. via a zoning determination letter). (Required for Silver, if PZ-5 isn't achieved)	No Change	PZ-4	0
PZD-2b	20	Codify in the zoning ordinance that accessory use solar PV is explicitly allowed by-right in all major zones. Zoning ordinance language should not include intentional or unintentional barriers to accessory use solar, such as limits to visibility from public rights-of-way, excessive restrictions to system size, glare studies, subjective design reviews, and neighbor consent requirements. (Required for Gold, PZ-4 is optional)	No Change	PZ-5	20
PZD-10b	5	Ensure that the zoning ordinance exempts rooftop solar PV from certain restrictions on accessory uses (e.g. height limits, rooftop equipment screening requirements, or other restrictions).	Ensure the zoning ordinance exempts rooftop solar PV from certain restrictions on accessory uses (e.g. height limits, rooftop equipment screening requirements, or other restrictions).	PZ-6	5
PZD-10a	5	Ensure that the zoning ordinance permits small ground-mounted solar PV as an accessory use in at least one zoning district.	Ensure the zoning ordinance permits small ground-mounted solar PV as an accessory use in at least one zoning district.	PZ-7	5
PZD-10c	5	Ensure that the zoning ordinance exempts small ground-mounted solar PV from certain restrictions on accessory uses (e.g. setbacks, coverage or	Ensure the zoning ordinance exempts small ground-mounted solar PV from certain restrictions on accessory uses (e.g. setbacks, coverage or impervious	PZ-8	5

		impervious surface calculations, or other restrictions).	surface calculations, or other restrictions).		
PZD-12a	5	Ensure that the zoning ordinance establishes a clear regulatory pathway for primary use solar PV (e.g. through a special use permit or through inclusion among allowed conditional uses).	Ensure the zoning ordinance establishes a clear regulatory pathway for large-scale solar PV (e.g. through a special use permit or through inclusion among allowed conditional uses).	PZ-9	5
		New	Ensure the zoning ordinance includes a native perennial vegetation and/or habitat-friendly ground cover requirement or standard for large-scale solar PV.	PZ-10	10
		New	Ensure the zoning ordinance enables co-location of solar PV with an agricultural use such as grazing, apiaries, or crops (agrivoltaics).	PZ-11	5
		New	Ensure the zoning ordinance requires a decommissioning plan that outlines the terms and conditions for a large-scale solar PV system's proper removal at the end of its useful life cycle or in the event of cessation of operation. (The decommissioning plan may include steps to remove the system, requirements for disposal and/or recycling of system components, and restoration as needed to allow for return to agriculture or other land use).	PZ-12	5
PZD-12b	5	Ensure that the zoning ordinance establishes solar energy zones and/or solar overlays for primary use solar PV.	Ensure the zoning ordinance establishes solar energy zones and/or solar overlays for large-scale solar PV.	PZ-13	5
CC-4	10	Require new construction to be solar ready in at least one zoning district by adopting Appendix U (International Code Council), Appendix RB (International Energy Conservation Code), or another mechanism.	No Change	PZ-14	10
CC-5	20	Codify a solar requirement for new construction and/or retrofits meeting a specific threshold, in at least one zoning district.	No Change	PZ-15	20
PZD-4	10	Provide clear guidance for the installation of solar PV on historic properties and in special overlay districts.	No Change	PZ-16	10

PZD-11	5	Post an online factsheet that provides an overview of what zoning allows for solar PV under what conditions (e.g. types and sizes of solar arrays permitted, the processes required, and other relevant information).	Post an online fact sheet that provides an overview of what zoning allows for solar PV under what conditions (e.g. types and sizes of solar systems permitted, the processes required, and other relevant information).	PZ-17	5
PZD-9	10	Train planning staff on best practices in planning and zoning for solar PV. Training must have occurred in the past five years.	Train planning and zoning staff on best practices in planning and zoning for solar PV. Training must have occurred in the past five years.	PZ-18	10
PZD-3b	5	Draft proposed language and a timeline for the inclusion of solar PV in existing and/or future plans. Involved planners in the creation of draft language.	Draft new or updated language and provide a timeline for the inclusion of specific solar PV goals, metrics, and/or strategies into existing and/or future plans.	PZ-19	5
PZD-5a	10	Include quantifiable metrics and/or specific actions for solar PV development in the most current version of relevant local plans (e.g. energy plan, climate plan, comprehensive plan).	Include specific solar PV goals, metrics, and/or strategies in the most current version of relevant local plans (e.g. energy plan, climate plan, comprehensive plan).	PZ-20	10
PZD-5b	10	Develop a primary use solar PV assessment that identifies all feasible sites for large-scale solar PV development within a jurisdiction.	Develop a solar PV assessment that identifies all feasible sites for large-scale solar PV development within a jurisdiction.	PZ-21	10
SR-3	10	Enable solar rights through a local solar access ordinance.	No Change	PZ-22	10
		New	Codify in the zoning ordinance that accessory use energy storage systems are explicitly allowed by-right in all major zones.	PZ-23	20

Government Operations

Old Credit	Old Points	Old Language	New Language	New Credit	New Points
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U-4	20	Demonstrate coordination between local government inspectors and utility staff to reduce Permission to Operate timeline.	Demonstrate coordination between local government inspectors and utility staff to reduce Permission to Operate timeline for solar PV.	GO-1	20
U-3a	10	Discuss community goals for solar PV, net metering, and/or interconnection processes with the local utility and explore areas for future collaboration. Compile summary and next steps in a memo.	Discuss community goals for solar PV, net metering, community solar, and/or interconnection processes with the local utility and explore areas for future collaboration. Compile summary and next steps in a memo.	GO-2	10
U-3b	5 > 10	Earn additional points: Coordinate with regional organizations or other local governments to engage utilities.	Coordinate with regional organizations and/or local governments to engage utilities on advancing solar policies such as utility procurement of solar PV, green tariffs, and/or interconnection process improvements.	GO-3	10
CE-7	10	Conduct feasibility analysis for solar PV on brownfields and/or other under-utilized properties.	Conduct feasibility analysis for solar PV on local government facilities and/or local government-controlled land.	GO-4	10
MDF-5	20	Install solar PV on/at local government facilities.	Install solar PV on local government facilities and/or local government-controlled land.	GO-5	20
CE-8	20	Install or lease land for solar PV development on brownfields and/or other under-utilized properties.	Install solar PV on local government-controlled brownfields and/or under-utilized properties	GO-6	20
MDF-10b	20	Earn additional points: Install solar PV integrated with other technologies such as combined heat and power or electric vehicle charging on/at a local government facility.	Install solar PV integrated with other technologies such as combined heat and power or electric vehicle charging on local government facilities and/or local government-controlled land.	GO-7	20
MDF-11b	20	Earn additional points: Install solar PV plus storage on/at a critical local government facility.	Install solar PV plus storage on local government facilities and/or local government-controlled land.	GO-8	20
		New	Require new local government facilities and/or facility retrofits meeting a specific threshold to be solar ready.	GO-9	10
		New	Procure solar energy for municipal operations through an offsite physical PPA, virtual PPA, green tariff, or similar structure.	GO-10	20

Community Engagement

Old Credit	Old Points	Old Language	New Language	New Credit	New Points
CE-2	10	Post a solar landing page on local government's website with information on the community's solar goals and local resources for solar development.	Post a solar landing page on local government's website with information that may include the community's solar goals, educational materials and tools that promote solar, and resources for solar development (e.g. permitting checklist, application forms, zoning regulations, etc.).	CE-1	10
MDF-1	5	Provide online resources on active solar installers and/or local incentives for solar PV.	Post online resources about solar installers and/or solar quote platforms for solar PV.	CE-2	5
MDF-3	5	Provide information to consumers about residential and commercial solar PV financing options.	Post online resources about residential and commercial solar PV financing options and incentives.	CE-3	5
SR-2	5	Post consumer protection resources on solar PV online.	Post online resources about consumer protection and solar PV.	CE-4	5
SR-1	5	Post an online summary of state policies related to a property owner's solar access and solar rights, including links to state-level policy.	No Change	CE-5	5
SR-5a	10 > 5	Engage homeowners and neighborhood associations to discuss restrictive requirements for solar PV with the goal of reducing or eliminating them. Compile summary and next steps in a memo.	Post an online summary of state policies related to Home Owner Associations (HOAs) ability to regulate and/or restrict solar PV, including links to state-level policy.	CE-6	5
MDF-2	5	Make solar PV metrics publicly available.	Post an online dashboard or summary of the solar PV metrics for your community.	CE-7	5
CE-11	20 > 5	Post an online solar map for your community.	No Change	CE-8	5
CE-5a	5	Host a solar workshop open to the general public and/or local government staff explaining solar PV opportunities and policies. Workshop must have occurred within the last 5 years.	Support a solar informational session and/or solar tour explaining solar PV opportunities and policies. Session/Tour must have occurred within the last 5 years.	CE-9	5
CE-6	20 > 5	Distribute solar job training and career opportunities in coordination with local colleges	No Change	CE-10	5

		and/or workforce development organizations.			
CE-5d	5	Demonstrate local government support for local solar projects through speeches, press releases, blog posts, opinion articles, etc.	Demonstrate local government support for local solar projects through speeches, press releases, opinion articles, etc.	CE-11	5
CE-1	10	Convene an active energy task force or solar working group that meets at least three times per year.	Discuss solar PV goals and/or strategies for increasing solar PV development within an appropriate committee, commission, taskforce, and/or working group. (e.g. solar is a recurring agenda item during monthly sustainability commission meetings).	CE-12	10

Market Development

Old Credit	Old Points	Old Language	New Language	New Credit	New Points
CE-10	20	Demonstrate activity in state-level conversations regarding solar PV.	Demonstrate activity in state regulatory and/or legislative proceedings regarding solar PV.	MD-1	20
CE-4a	20	Support or host a community-wide group purchase program (e.g. Solarize). Program must have occurred within the last 5 years.	Support a community-wide group purchase program (e.g. Solarize). Program must have occurred within the last 5 years.	MD-2	20
CE-4b	10	Earn additional points: Encourage low-to-moderate income (LMI) participation in community-wide group purchase program through program design and/or financing support options.	Encourage low-to-moderate income (LMI) participation in community-wide group purchase program through program design and/or financing support options.	MD-3	10
CE-12a	20	Support a third party-provided community solar program. Note: this cannot be the same community solar program for which credit was received under Utility Engagement.	Support a community solar program.	MD-4	20
CE-12b	10	Earn additional points: Encourage low-to-moderate income (LMI) participation in third party-provided community solar program through program design and/or financing support options.	Encourage low-to-moderate income (LMI) participation in a community solar program through program design and/or financing support options.	MD-5	10
U-6	20	Provide residents with Community Choice	No Change	MD-6	20

		Aggregation/Energy that includes solar PV as a power generation source.			
MDF-6a	10	Provide PACE financing in your community.	Provide a PACE financing program that includes solar PV as an eligible technology.	MD-7	10
MDF-7a	20	Provide local incentives (e.g. permit fee waivers or rebates) or locally-enabled finance (e.g., a revolving loan fund) for solar PV.	Provide local incentives or locally-enabled finance (e.g. a revolving loan fund) for solar PV.	MD-8	20
MDF-7b	5	Provide local incentives for solar PV to low-to-moderate income (LMI) households, Disadvantaged Business Enterprises (DBEs), and/or non-profit organizations that provide community services.	No Change	MD-9	5
MDF-8	20	Engage local banks, credit unions, foundations and/or community funds about lending for solar PV projects through in-person meetings, discussions, and/or workshops. Compile summary and next steps in a memo.	Partner with financial institutions and/or foundations to offer loans, rebates, grants, or other incentives for solar PV projects. (Financial institutions could include entities such as a local or regional bank, CDFI, or credit union).	MD-10	20

Innovative Action

One innovative action at the end of the application rather than for each category.

Removed Credits

P-6	10	Process small rooftop solar PV permits in 10 business days or fewer.
P-10	10	Develop a regular communication schedule to solicit recommendations from solar PV installers regarding procedural changes.
P-12b	10	Share site specific solar PV and/or solar and storage system permit data, including addresses, with other local government departments (Not including first responders and their departments). (e.g. Through software that allows users to view searchable, filterable data about a specific site and system).
PZD-3a	5	Review existing planning documents and identify new opportunities (not already included) to integrate solar PV into planning goals. Compile findings in a memo.
PZD-6	10	Include guidelines for active and passive solar in development regulations (e.g. providing guidance for orientation of structures in subdivision regulations).
PZD-7	20	Provide development incentives for solar PV within the subdivision or zoning process, or as part of other development incentives (e.g., density or height bonuses for buildings that plan to install solar or tax-increment financing).

PZD-8	20	Incentivize solar PV development on parking lots, vacant lots, buffer lands around uses with nuisances (e.g. refineries, wastewater plants), brownfields, airport safety zones (with FAA approval), and non-building structures.
I-5	10	Complete solar PV inspections within 5 business days after inspection request.
CC-1a	5	Provide Solar Ready Construction Guidelines for property/real estate developers to enable lower cost installation of future solar PV installations on buildings. Provide these resources at the permitting office and online.
CC-1b	5	Earn additional points: Include guidance for solar PV on parking lots and other types of non-traditional structures.
CC-2	10	Incentivize new construction to be solar ready in at least one zoning district.
CC-3	10	Post online design guidelines for solar PV aligned with National Electrical Code and fire code
SR-4	10	Post an online checklist detailing the steps for recording solar easements for property owners.
SR-5b	5	Earn additional points: Encourage subdivisions to consider shared solar allowances.
SR-5c	5	Earn additional points: Develop design guidelines for solar PV in partnership with homeowner associations.
U-1	5	Inform staff of best practices for integrating interconnection with electrical inspections.
U-2	10	Discuss community solar programs with the local utility. Compile summary and next steps in a memo.
U-3a	10	Discuss community goals for solar PV, net metering, and/or interconnection processes with the local utility and explore areas for future collaboration. Compile summary and next steps in a memo.
U-3b	5	Earn additional points: Coordinate with regional organizations or other local governments to engage utilities.
U-4	20	Demonstrate coordination between local government inspectors and utility staff to reduce Permission to Operate timeline.
U-5a	20	Launch or support a utility-provided community solar program.
U-5b	10	Earn additional points: Encourage low-to-moderate income (LMI) participation in utility-provided community solar program through program design and/or financing support options.
CE-3	10	Provide technical assistance and/or programs or processes to support solar PV development on non-profit and/or community-service orientated facilities.
CE-5b	5	Distribute educational materials at relevant community events and/or through local government channels.
CE-5c	5	Establish partnerships with local organizations within your community on solar PV multi-year goals and/or planned initiatives.
CE-5e	5	Engage the community through recurring public meetings, focus groups, or other similar events around climate, energy, or sustainability plans and/or goals.
CE-9	20	Engage with regional organizations on advancing solar policies in the region such as unified permitting processes and group procurement opportunities.

MDF-4	10	Conduct feasibility analysis for solar PV installations on/at local government facilities.
MDF-6b	10	Earn additional points: Demonstrate that PACE financing has been used to finance solar PV in your community.
MDF-9	20	Demonstrate that the community's installed per capita capacity is above top 20% of states (>99 watts/person).
MDF-10a	10	Conduct feasibility analysis for solar PV integrated with other technologies such as combined heat and power or electric vehicle charging on/at a local government facility.
MDF-11a	10	Conduct feasibility analysis for solar PV plus storage on/at a critical local government facility.

Draft Ordinance Updates as of December 2018**ORDINANCE NO. 914_____****AN ORDINANCE TO THE MAPLEWOOD MUNICIPAL CODE REGARDING RENEWABLE ENERGY SYSTEMS
An Ordinance Regulating Renewable Energy Systems (Wind, Solar, Geothermal)**

The Maplewood City Council approves ~~the following addition~~changes to ~~the Maplewood Code of Ordinances. This ordinance creates a new renewable energy ordinance which will be placed in the Chapter 18 (Environment Chapter (Chapter 18) of the city code.), Article V (Environment and Natural Resources), Division 5 (Renewable Energy) as follows:~~

Section 1. Scope.

This ordinance applies to the regulations of ~~on-site~~ renewable energy systems within the City of Maplewood, Ramsey County, MN. The ordinance focuses on wind turbines, solar systems, and geothermal ground-source heat pumps ~~which are located on the site for which the generation of energy will be used, with excess energy distributed into the electrical grid.~~

Section 2. Purpose and Intent.

It is the goal of the city to provide a sustainable quality of life for the city's residents, making careful and effective use of available natural resources to maintain and enhance this quality of life. Cities are enabled to regulate land use under Minnesota Statutes 394 and 462 for the purpose of "promoting the health, safety, morals, and general welfare of the community."

As part of this regulatory power, Maplewood believes it is in the public interest to encourage renewable energy systems that have a positive impact in energy conservation, with limited adverse impact on the community. While Maplewood strongly encourages increased energy conservation and improved energy efficiency, the city also finds that increased use of appropriate renewable energy systems will be an important part of improving urban sustainability.

The renewable energy regulations are intended to supplement existing zoning ordinances and land use practices, and ensure these systems are appropriately designed, sited and installed. These regulations are in place to balance the need to improve energy sustainability through increased use of renewable energy systems with concerns for preservation of public health, welfare, and safety, as well as environmental quality, visual and aesthetic values, and existing neighborhood social and ecological stability. With these regulations, Maplewood is concerned that renewable energy systems, particularly wind energy systems, be designed to minimize the negative impacts on bird and bat species which are vulnerable to mortality from these energy gathering machines.

Section 3. Wind Energy Sources and Systems**a. Definitions, Wind Energy Sources and Systems**

The following words, terms and phrases, when used in this Section, shall have the meaning provided herein, except where the context clearly indicates otherwise:

Feeder Line. Any power line that carries electrical power from one or more wind ~~turbines~~turbine(s) or individual transformers associated with an individual wind turbine to the point of interconnection with the electric power grid. In the case of interconnection with the high voltage transmission systems the point of interconnection shall be the substation serving the WECS.

Ground mounted WECS. Freestanding WECS mounted to the ground with footings or other apparatus.

Large WECS. A WECS of equal to or greater than 100 kW in total nameplate generating capacity. ~~The energy must be used on-site with excess energy distributed into the electrical grid.~~ Large WECS are limited to one-hundred twenty five (125) feet in height.

Property Line. The boundary line of the area over which the entity applying for WECS permit has legal control for the purposes of installation of a WECS. This control may be attained through fee title ownership, easement, or other appropriate contractual relationship between the project developer and landowner.

Roof Mounted WECS. A WECS utilizing a turbine mounted to the roof of a structure.

Significant Tree. Any tree defined as a Significant Tree in the city's tree preservation ordinance.

Small WECS. A WECS of less than 100kW in total nameplate generating capacity. ~~The energy must be used on-site with excess energy distributed into the electrical grid.~~ Small WECS are limited to sixty (60) feet in height.

Tower. Vertical structures that support the electrical generator, rotor, and blades, or the meteorological equipment.

Tower Height. The total height of the WECS, including tower, rotor, and blade to its highest point of travel.

Turbine Cut-In Speed. The lowest wind speed at which turbines generate power to the utility system.

Wind Energy. Kinetic energy present in wind motion that can be converted into electrical energy.

WECS. A Wind Energy Conversion System which is an electrical generating facility comprised of one or more wind turbines and accessory facilities, including but not limited to, power lines, transformers, substations and metrological towers that operate by converting the kinetic energy of wind into electrical energy. ~~The energy must be used on-site with excess energy distributed into the electrical grid.~~

Wind Energy System. An electrical generating facility that consists of a wind turbine associated controls and may include a tower.

Wind Turbine. A wind turbine is any piece of electrical generating equipment that converts the kinetic energy of blowing wind into electrical energy through the use of airfoils or similar devices to capture the wind.

b. WECS Districts

1. Large WECS Districts.

- (a) Ground and Roof Mounted Large WECS shall be allowed with approval of a conditional use permit as outlined in section d (conditional use permit procedure) in the following zoning districts and land use designations:
 - (1) In all properties located in commercial zoning districts (Heavy Manufacturing, Light Manufacturing, Business Commercial, Business Commercial Modified, Limited Business Commercial, Commercial Office, Neighborhood Commercial, Shopping Center).
 - (2) In all properties located in multiple dwelling residential zoning districts (Multiple Dwelling Residential and Multiple Dwelling Residential Townhouse) for purposes of shared WECS energy production among the residential dwelling units.
 - (3) In all properties approved as a planned unit development for purposes of shared WECS energy production among the businesses/organizations, residential dwelling units, or adjoining businesses/organizations/residential dwelling units.
 - (4) In all properties guided as Government-~~or~~, Institutional, or Park in the city's Land Use Designations of the Comprehensive Plan.

~~(b) Ground and Roof Mounted Large WECS shall be prohibited in all properties guided as park or open space in the city's Land Use Designations of the Comprehensive Plan.~~

2. Small WECS Districts.

- (a) Roof Mounted Small WECS shall be deemed permissible in all zoning districts.
- (b) Ground Mounted Small WECS shall be deemed an accessory structure, permissible in the following zoning districts and land use designations:
 - (1) In all properties located in commercial zoning districts (Heavy Manufacturing, Light Manufacturing, Business Commercial, Business Commercial Modified, Limited Business Commercial, Commercial Office, Neighborhood Commercial, Shopping Center).
 - (2) In all properties located in multiple dwelling residential zoning districts (Multiple Dwelling Residential and Multiple Dwelling Residential Townhouse) for purposes of shared WECS energy production among the residential dwelling units.
 - (3) In all properties approved as a planned unit development for purposes of shared WECS energy production among the

businesses/organizations, residential dwelling units, or adjoining businesses/organizations/residential dwelling units.

(4) In all properties guided as Government, ~~or Institutional~~, or Park in the city's Land Use Designations of the Comprehensive Plan.

~~(5) In all properties guided as park in the city's Land Use Designations of the Comprehensive Plan.~~

(c) Ground Mounted Small WECS shall be deemed an accessory structure, permissible in double or single dwelling residential zoning districts if the following neighborhood consent requirements are met:

Written consent of ~~one hundred (100)~~sixty (60) percent of the owners or occupants of privately or publicly owned real estate that are located adjacent (i.e., sharing property lines) on the outer boundaries of the premises for which the permit is being requested, or in the alternative, proof that the applicant's property lines are one-hundred fifty (150) feet or more from any house.

Where an adjacent property consists of a multiple dwelling or multi-tenant property, the applicant need obtain only the written consent of the owner or manager, or other person in charge of the building. Such written consent shall be required on the initial application and as often thereafter as the officer deems necessary.

c. Placement and Design

1. Ground Mounted WECS.

(a) Height

(1) Large WECS shall have a total height, including tower and blade to its highest point of travel, of no more than one-hundred twenty-five (125) feet.

(2) Small WECS shall have a total height, including tower and blade to its highest point of travel, of no more than sixty (60) feet.

(b) Placement

(1) Large WECS shall be located as follows:

a) Shall not be located between a principal structure and a public street, unless the city determines that such a location would lessen the visibility of the Large WECS or would lessen the ~~negative~~ impacts of such a WECS on nearby properties.

b) Have a minimum setback distance from the base of the monopole of one (1) times the height from any property line, electric substation, transmission line, or other WECS. ~~In addition, the setback distance must be increased by twenty five (25) feet from any property that is zoned or planned for residential.~~

~~c) Have a minimum setback distance from the base of the monopole of one and one half (1-1/2) times the height from any public right of way, occupied structure, or public use area.~~

~~d) Have a minimum setback distance from the base of the monopole of six hundred (600) feet from any property guided as park or open space in the city's Land Use Designations of the Comprehensive Plan.~~

~~e) Have a minimum setback distance from the base of the monopole of one fourth (1/4) mile or one thousand three hundred and twenty (1,320) feet from any bluff.~~

c) Maintain setbacks to bluffs as outlined in Section 18-462 (e) (Slopes).

(2) Small WECS shall be located as follows:

a) Shall not be located between a principal structure and a public street, unless the city determines that such a location would lessen the visibility of the Small WECS or would lessen the ~~negative~~ impacts of such a WECS on nearby properties.

b) Have a minimum setback distance from the base of the monopole of one (1) times the height from any property line, public right-of-way, electric substation, transmission line, or other WECS.

~~(c) Number~~

~~(1) Large WECS. One (1) large WECS shall be allowed on a single lot of one (1) to five (5) acre(s). All other larger parcels will be limited to one (1) large WECS per five (5) acres of land area.~~

~~(2) Small WECS. One (1) small WECS shall be allowed on a single lot up to one (1) acre in size. All other larger parcels will be allowed one (1) small WECS per five (5) acres of land area.~~

(b) (d) Design

(1) Tower Configuration. All ground mounted WECS shall:

- a) Be installed with a tubular, monopole type tower.
 - b) Have no guyed wires attached to the tower or other components.
 - c) Have no ladder, step bolts, rungs, or other features used for tower access to extend within eight (8) feet of the ground. Lattice-style towers shall have a protective barrier to prevent unauthorized access to the lower eight (8) feet of the tower.
- (2) Signs. A WECS operator is required to provide a single posting, not to exceed four (4) square feet, at the base of a WECS prohibiting trespassing, warning of high voltage, and providing the emergency contact information for the operator.

2. Roof Mounted WECS.

(a) Height

(1) Large Roof Mounted WECS:

- a) Total height ~~of not more than twenty-five (25) feet, measured from the top of the roof to the blade tip at its highest point of travel.~~ shall be established through the conditional use permit process.

(2) Small Roof Mounted WECS:

- a) Total height of not more than twenty-five (25) feet, measured from the top of the roof to the blade tip at its highest point of travel.
- b) Residential Installation: In addition to the twenty-five (25) foot height restriction for the Small Roof Mounted WECS, the height of the WECS and the structure on which it is attached must not exceed the maximum height allowed in the residential zoning district for which it is installed.

(b) Placement

Roof mounted WECS must be erected above the roof of a building or structure. The mounts associated with the WECS may extend onto the side of the building or structure.

(c) Number

- (1) Large Roof Mounted WECS. The maximum number of Large Roof Mounted WECS shall be approved through the conditional use permit process.

(2) Small Roof Mounted WECS. No more than three (3) roof mounted Small WECS shall be installed on any rooftop.

d. Conditional Use Permit Procedure. Procedures for granting conditional use permits from this ordinance are as follows:

1. The city council may approve conditional use permit requirements in this ordinance.
2. Before the city council acts on a conditional use permit the environmental and natural resources commission and the planning commission will make a recommendation to the city council.
3. In reviewing the conditional use permit the environmental and natural resources commission, planning commission, and city council will follow the requirements for conditional use permit approvals as outlined in Article V (conditional use permits).

e. General Standards

1. The following provisions will apply to all WECS erected under the provisions of this ordinance:
 - (a) Noise: Have a maximum noise production rating of fifty-five (55) dB fifty (50) dBA and shall conform to this standard under normal operating conditions as measured at any property line.
 - (b) Over Speed Controls: Shall be equipped with manual and automatic over speed controls to limit the blade rotation within design specifications.
 - (c) Lighting: Have no installed or accessory lighting, unless required by federal or state regulations.
 - (d) Intent to Install: Prior to the installation or erection of a WECS, the operator must provide evidence showing their regular electrical service provider has been informed of the customer's intent to install an interconnected, customer-owned generator. Off-grid systems shall be exempt from this requirement.
 - (e) Signs: The placement of all other signs, postings, or advertisements shall be prohibited on the units. This restriction shall not apply to manufacturer identification, unit model numbers, and similar production labels.
 - ~~(f) Commercial Installations: All WECS shall be limited to the purpose of on-site energy production, except that any additional energy produced above the total on-site demand may be sold to the operator's regular electrical service provider in accordance with any agreement provided by the same or applicable legislation.~~

- (g) Feeder Lines: Any lines accompanying a WECS, other than those contained within the WECS' tower or those attached to on-site structures by leads, shall be buried within the interior of the subject parcel, unless there are existing lines in the area which the lines accompanying a WECS can be attached.
- (h) Clearance: Rotor blades or airfoils must maintain at least 20 feet of clearance between their lowest point and the ground.
- (i) Blade Design: The blade design and materials must be engineered to insure safe operation in an urban area.
- (j) Energy Storage: Batteries or other energy storage devices shall be designed consistent with the Minnesota Electric Code and Minnesota Fire Code.

2. In addition to the provisions outlined in Section 3, item e(1) above, the following provisions will apply to large WECS erected under the provisions of this ordinance:

- (a) Color: Turbine paint color and high levels of ultraviolet and infrared components of paint could have an impact on the attraction of insect species to the structure, which may attract birds and bats and cause bird and bat mortality. As such, turbine paint color may be approved as part of the conditional use permit process and must be shown to reduce the ~~negative~~ impacts to birds and bats and be a non-obtrusive color so not to cause ~~negative~~ visual impacts to surrounding properties.
- (b) Warnings: A sign or signs shall be posted on the tower, transformer and substation warning of high voltage. Signs with emergency contact information shall also be posted on the turbine or at another suitable point.
- (c) Environmental Standards: The applicant shall provide the following information in the conditional use permit application. The information will be evaluated in meeting the criteria of a conditional use permit for purposes of minimizing impacts on the environment:
 - (a) Natural Heritage Review by the Minnesota Department of Natural Resources.
 - (b) Lands guided as park or open space in the city's Land Use Designation of the Comprehensive Plan that are located within one (1) mile of the project.
 - (c) Conservation easements and other officially protected natural areas within a quarter mile of the project.
 - (d) Shoreland, Mississippi Critical Area, Greenways, wetland buffers, wildlife corridors and habitat complexes.

- (e) All significant trees impacted by the project.
- (f) A plan for turbine-cut in speed strategies where feasible in order to reduce bird and bat deaths. Studies have shown that bird and bat fatalities would be significantly reduced by changing turbine cut-in speed and reducing operational hours during low-wind periods, evening hours (one-half hour before sunset to one-half hour after sunrise-only in spring, summer, and early fall), and migration times in spring and fall.

3. In addition to the provisions outlined in Section 3, item e(1) above, the following provisions will apply to small WECS erected under the provisions of this ordinance:

- (a) Color: Turbine paint color must be a non-obtrusive color so not to cause ~~negative~~ visual impacts to surrounding properties.

f. Abandonment

A WECS that is allowed to remain in a nonfunctional or inoperative state for a period of twelve (12) consecutive months, and which is not brought in operation within the time specified by the city after notification to the owner or operator of the WECS, shall be presumed abandoned and may be declared a public nuisance subject to removal at the expense of the operator.

Section 4. Solar Energy Sources and Systems

a. Definitions, Solar Energy Sources and Systems

The following words, terms and phrases, when used in this Section, shall have the meaning provided herein, except where the context clearly indicates otherwise:

Building-Integrated Solar System. An active solar system that is an integral part of a principal or accessory building, rather than a separate mechanical device, replacing or substituting for an architectural or structural component of the building. Building-integrated systems include, but are not limited to, photovoltaic or hot water solar systems that are contained within roofing materials, windows, skylights, and awnings.

Ground Mounted Community Solar Garden. A ground mounted solar energy system that provides retail electric power (or a financial proxy for retail power) to multiple community members or businesses residing or located off-site from the location of the solar energy system.

Ground Mounted Panels. Freestanding solar panels mounted to the ground by use of stabilizers or similar apparatus.

Photovoltaic System. An active solar energy system that converts solar energy directly into electricity.

Roof, or Building, or Structure (i.e., parking canopy, etc.) Mounted SES. Solar energy system (panels) that are mounted to the roof, or building, or structure using brackets, stands or other apparatus.

Roof Mounted Community Solar Garden. A roof mounted solar energy system that provides retail electric power (or a financial proxy for retail power) to multiple community members or businesses residing or located off-site from the location of the solar energy system.

Roof Pitch. The final exterior slope of a building roof calculated by the rise over the run, typically, but not exclusively, expressed in twelfths such as 3/12, 9/12, 12/12.

Solar Access. A view of the sun, from any point on the collector surface that is not obscured by any vegetation, building, or object located on parcels of land other than the parcel upon which the solar collector is located, between the hours of 9:00 AM and 3:00 PM Standard time on any day of the year.

Solar Collector. A device, structure or a part of a device or structure for which the primary purpose is to transform solar radiant energy into thermal, mechanical, chemical, or electrical energy.

Solar Energy. Radiant energy received from the sun that can be collected in the form of heat or light by a solar collector.

Solar Energy System (SES). An active solar energy system that collects or stores solar energy and transforms solar energy into another form of energy or transfers heat from a collector to another medium using mechanical, electrical, or chemical means. SES can be roof, building, structure, or ground mounted.

Solar Hot Water System. A system that includes a solar collector and a heat exchanger that heats or preheats water for building heating systems or other hot water needs, including residential domestic hot water and hot water for commercial processes.

b. Districts

Solar energy systems (SES) shall be allowed as an accessory use in all zoning districts.

Roof, Building, or Structure mounted community solar gardens shall be allowed as an accessory use in all zoning districts.

Ground mounted community solar gardens as an accessory use that are one acre in size or under are a permitted use in all zoning districts.

Ground mounted community solar gardens as an accessory use that are greater than one acre in size are allowed in all zoning districts with a conditional use permit.

Ground mounted community solar gardens as a primary use shall be allowed in all zoning districts with a conditional use permit.

c. Placement and Design

1. Height

- (a) Roof or building mounted SES ~~shall not exceed~~ are allowed to be ten (10) feet higher than the maximum allowed height in any zoning district. ~~For purposes for height measurement, solar systems other than building-integrated solar systems shall be considered to be mechanical devices and are restricted consistent with other building-mounted mechanical devices.~~
- (b) Ground mounted SES shall not exceed the height of an allowed accessory structure within the zoning district when oriented at maximum tilt.
- (c) Community Solar Gardens shall not exceed the height of an allowed primary structure within the zoning district when oriented at maximum tilt.

2. Placement

- (a) ~~_____ (a) _____~~ Ground mounted SES must ~~meet the accessory structure~~ maintain a five (5) foot setback for the zoning district in which it is installed. to any property line.
- (b) Roof or Building Mounted SES. The collector surface and mounting devices for roof or building mounted SES ~~shall not extend~~ may two (2) feet beyond the required setbacks of the building on which the system is mounted.

~~3.~~ Coverage

- (c) ~~_____~~ Ground mounted SES ~~may not exceed~~ Mounted Community Solar Gardens shall comply with the area restrictions placed on accessory structures within building setback limitations for the subject zoning district. in which the system is located.
- (d) ~~_____~~ Roof Mounted Community Solar Gardens. The collector surface and mounting devices for roof mounted community solar gardens may extend two (2) feet beyond the required setbacks of the building on which the system is mounted.

~~3.~~ 4. Visibility

- (a) SES ~~shall be designed~~ are a visible sign of the City's commitment to blend into the architecture of the building or be screened from routine view from public right-of ways other than alleys. sustainability. The color of the solar collector is not required to be consistent with other roofing or building materials.
- (b) Building Integrated Solar Systems - Building integrated solar systems shall be allowed regardless of visibility, provided the building component

in which the system is integrated meets all required setback, land use or performance standards for the zoning district in which the building is located.

- (c) Ground ~~mounted SES~~Mounted Community Solar Gardens shall be screened from view from the public right-of-way and affected properties to the extent possible ~~without reducing their efficiency. Screening may include walls, fences, or by setbacks, berming, existing vegetation, landscaping, or a combination thereof.~~

4. Design

(a) Ground Mounted Community Solar Gardens

- (1) Large-scale removal of mature trees on the site is discouraged. Removal of significant trees on the site must comply with the tree preservation ordinance.
- (2) The project site design shall include the installation and establishment of ground cover meeting the beneficial habitat standard consistent with Minnesota Statutes, section 216B.1642, or successor statutes and guidance as set by the Minnesota Board of Water and Soil Resources.
- (3) Beneficial habitat standards shall be maintained on the site for the duration of operation, until the site is decommissioned.
- (4) The applicant shall submit a financial surety to equal one hundred fifty (150) percent of the costs to meet the beneficial habitat standard. The financial guarantee shall remain in effect until vegetation is sufficiently established.

d. General Standards

- ~~1. Notification. Prior to the installation or erection of a SES, the operator must provide evidence showing their regular electrical service provider has been informed of the customer's intent to install an interconnected, customer-owned SES. Off-grid systems shall be exempt from this requirement.~~
- 21. Feeder lines. Any lines accompanying a SES, other than those attached to on-site structures by leads, shall be buried within the interior of the subject parcel, unless there are existing lines in the area which the lines accompanying an SES can be attached.
- ~~3. Commercial. All SES shall be limited to the purpose of on-site energy production, except that any additional energy produced above the total onsite demand may be sold to the operator's regular electrical service provider in accordance with any agreement provided by the same or applicable legislation.~~

42. Restrictions on SES Limited. No homeowners' agreement, covenant, common interest community, or other contract between multiple property owners within a subdivision of Maplewood shall restrict or limit solar systems to a greater extent than Maplewood's renewable energy ordinance.
53. Maplewood encourages solar access to be protected in all new subdivisions and allows for existing solar to be protected consistent with Minnesota Statutes. Any solar easements filed, must be consistent with Minnesota Statutes, Chapter 500, Section 30.

e. Abandonment

e. Conditional Use Permit Procedure. Procedures for granting conditional use permits from this ordinance are as follows:

1. The city council may approve conditional use permit requirements in this ordinance.
2. Before the city council acts on a conditional use permit the environmental and natural resources commission and the planning commission will make a recommendation to the city council.
3. In reviewing the conditional use permit the environmental and natural resources commission, planning commission, and city council will follow the requirements for conditional use permit approvals as outlined in Article V (conditional use permits).

f. Abandonment

A SES or Community Solar Garden that is allowed to remain in a nonfunctional or inoperative state for a period of twelve (12) consecutive months, and which is not brought in operation within the time specified by the city, shall be presumed abandoned and may be declared a public nuisance subject to removal at the expense of the operator.

Section 5. Geothermal Energy Sources and Systems

a. Definitions, Geothermal Energy Sources and Systems

The following words, terms and phrases, when used in this Section, shall have the meaning provided herein, except where the context clearly indicates otherwise:

Closed Loop Ground Source Heat Pump System. A system that circulates a heat transfer fluid, typically food-grade antifreeze, through pipes or coils buried beneath the land surface or anchored to the bottom in a body of water.

Geothermal Energy. Renewable energy generated from the interior of the earth and used to produce energy for heating buildings or serving building commercial or industrial processes.

Ground Source Heat Pump System (GSHPs). A system that uses the relatively constant temperature of the earth or a body of water to provide heating in the winter and cooling in the summer. System components include closed loops of pipe, coils or plates; a fluid that absorbs and transfers heat; and a heat pump unit that processes heat for use or disperses heat for cooling; and an air distribution system. ~~The energy must be used on-site.~~

Heat Transfer Fluid. A non-toxic and food grade fluid such as potable water, aqueous solutions of propylene glycol not to exceed twenty percent (20%) by weight or aqueous solutions of potassium acetate not to exceed twenty percent (20%) by weight.

Stormwater Pond. These are ponds created for stormwater treatment. A stormwater pond shall not include wetlands created to mitigate the loss of other wetlands.

b. Districts

Ground source heat pump systems (GSHPs) shall be deemed an accessory structure, permissible in all zoning districts.

c. Placement and Design

1. Placement

(a) All components of GSHPs including pumps, borings and loops shall be set back at least five (5) feet from interior and rear lot lines.

(b) Easements. All components of GSHPs shall not encroach on easements.

(c) GSHPs are prohibited in surface waters, except for stormwater ponds where they are permitted.

2. Design

(a) Only closed loop GSHPs utilizing Minnesota Department of Health approved heat transfer fluids are permitted.

(b) Screening. Ground source heat pumps are considered mechanical equipment and subject to the requirements of the city's zoning ordinance.

d. General Standards

1. Noise. GSHPs shall comply with Minnesota Pollution Control Agency standards outlined in Minnesota Rules Chapter 7030.

e. Abandonment

A GSHPS that is allowed to remain in a nonfunctional or inoperative state for a period of twelve (12) consecutive months, and which is not brought in operation within the time specified by the city after notification to the owner or operator of the GSHPS, shall be presumed abandoned and may be declared a public nuisance subject to removal at the expense of the operator.

Section 6. General Ordinance Provisions

a. Interpretation

In interpreting this ordinance and its application, the provisions of these regulations shall be held to be the minimum requirements for the protection of public health, safety and general welfare. This ordinance shall be construed broadly to promote the purposes for which it was adopted.

b. Conflict

This ordinance is not intended to interfere with, abrogate or annul any other ordinance, rule or regulation, statute or other provision of law except as provided herein. If any provision of this ordinance imposes restrictions different from any other ordinance, rule or regulation, statute or provision of law, the provision that is more restrictive or imposes high standards shall control.

c. Severability

If any part or provision of this ordinance or its application to any developer or circumstance is judged invalid by any competent jurisdiction, the judgment shall be confined in its operation to the part, provision or application directly involved in the controversy in which the judgment shall be rendered and shall not affect or impair the validity of the remainder of these regulations or the application of them to other developers or circumstances.

Section 7. Ordinance Placement

~~The ordinance places all environmental ordinances under the Environment Chapter (Chapter 18) by adding Article V (Environmental Protection and Critical Areas) and including the following ordinances under the new Article: wetlands and streams, tree protection, slopes, Mississippi Critical Area, Flood Plain Overlay District, Shoreland Overlay District, and Renewable Energy. Following is the revised Chapter 18 Article headings (additions are underlined):~~

Chapter 18

ENVIRONMENT

Article I. In General

~~Sec. 0-1 — 18-25. Reserved.~~

Article II. Nuisances

~~Division 1. Generally~~

~~Sec. 18-26 — Unlawful to cause, create or commit.~~

~~Sec. 18-27 — Common law and statutory nuisances adopted by reference.~~

~~Sec. 18-28 — Unlawful to permit; cellars, drains cesspools or sewers.~~

~~Sec. 18-29 — Rental agents to disclose name of owner or principal to city manager upon request.~~

~~Sec. 18-30 — Public nuisances generally.~~

~~Sec. 18-31 — Nuisances affecting health, safety, comfort or repose.~~

~~Sec. 18-32 — Nuisances affecting morals and safety.~~

~~Sec. 18-33 — Enforcement of article generally.~~

~~Sec. 18-34 — Continuing violations.~~

~~Sec. 18-35 — Notice to abate.~~

~~Sec. 18-36 — Abatement by council.~~

~~Sec. 18-37 — Abatement on premises.~~

~~Sec. 18-38 — Violations of article.~~

~~Sec. 18-39 — Loitering.~~

~~Sec. 18-40 — 18-65. Reserved.~~

~~Division 2. Abandoned Motor Vehicles~~

~~Sec. 18-66 — Purpose.~~

~~Sec. 18-67 — Definitions.~~

~~Sec. 18-68 — Violation.~~

~~Sec. 18-69 — Taking into custody and impoundment.~~

~~Sec. 18-70 — Certain vehicles declared nuisances; abatement; removal.~~

~~Sec. 18-71 — Immediate sale of certain vehicles.~~

~~Sec. 18-72 — Additional remedies.~~

~~Sec. 18-73 — Police reports.~~

~~Sec. 18-74 — Notice to owner and lienholders.~~

~~Sec. 18-75 — Reclamation by owner or lienholder; preservation of lien rights.~~

~~Sec. 18-76 — Sale of vehicle.~~

~~Sec. 18-77 — Designation of poundkeeper.~~

~~Sec. 18-78 — Bond of poundkeeper.~~

~~Sec. 18-79 — Insurance of poundkeeper.~~

~~Sec. 18-80 — Towing and storage charges generally.~~

~~Sec. 18-81 — Release of vehicle and service fee before vehicle towed away.~~

~~Sec. 18-82 — Abatement of towing and storage charges.~~

~~Sec. 18-83 — Release of vehicles.~~

~~Sec. 18-84 — Release form.~~
~~Sec. 18-85 — Police records.~~
~~Sec. 18-86 — 18-110. Reserved.~~

~~Division 3. Noise Control~~

~~Sec. 18-111 — Prohibition generally; exception.~~
~~Sec. 18-112 — Construction activities.~~
~~Sec. 18-113 — Enforcement.~~
~~Sec. 18-114 — 18-140. Reserved.~~

~~**Article III. Erosion and Sedimentation Control**~~

~~Sec. 18-115 — Purpose.~~
~~Sec. 18-116 — Scope.~~
~~Sec. 18-117 — Erosion and sediment control plan.~~
~~Sec. 18-118 — Review of plan.~~
~~Sec. 18-119 — Modification of plan.~~
~~Sec. 18-120 — Escrow requirement.~~
~~Sec. 18-121 — Enforcement; penalty.~~
~~Sec. 18-122 — 18-175. Reserved.~~

~~**Article IV. Air Pollution Control**~~

~~Sec. 18-176 — Short title.~~
~~Sec. 18-177 — State regulations adopted.~~
~~Sec. 18-178 — Approval required to start fire.~~
~~Sec. 18-179 — Penalties for violations.~~
~~Sec. 18-180 — 18-XXX. Reserved.~~

~~**Article V. Environmental Protection and Critical Areas**~~

~~Division 1. Stormwater Management~~

~~Division 2. Wetlands and Streams~~

~~Division 3. Tree Protection~~

~~Division 4. Slopes~~

~~Division 5. Mississippi Critical Area~~

~~Division 6. Flood Plain Overlay District~~

~~Division 7. Shoreland Overlay District~~

~~Division 8. Renewable Energy~~

~~The city council approved the first reading of this ordinance on September 26, 2011.~~

~~The city council approved the second reading of this ordinance on October 10, 2011.~~

Signed:

~~Will Rossbach, Mayor~~ _____ ~~Date~~

Attest:

~~Karen Guilfoile, City Clerk~~