

**TOWN OF PLYMOUTH  
ROCK COUNTY, WISCONSIN  
ORDINANCE NO. 2023-01**

**AN ORDINANCE TO PROVIDE FOR THE REGULATION OF SOLAR ENERGY SYSTEMS.**

**RECITALS**

- A. Section 66.0401 of the Wisconsin Statutes limits and defines the ability of political subdivisions to regulate solar energy systems.
- B. The Wisconsin Public Service Commission has created regulations under said statutes which further limit and define the ability of political subdivisions to regulate solar energy systems.
- C. It is the desire of the Town Board of the Town of Plymouth to exercise such authority as it is permitted to exercise under Wisconsin law to regulate solar energy systems.

**NOW, THEREFORE**, the Town Board of the Town of Plymouth, County of Rock, State of Wisconsin, ordains as follows:

**SECTION I – TITLE AND PURPOSE**

The title of this Ordinance is the “Town of Plymouth Solar Energy Ordinance.” The purpose of this ordinance is to, within the limited authority granted to the Town Board as a political subdivision, establish regulations on the installation and use of Solar Energy Systems within the Town of Plymouth, and preserve and protect the public health and safety of the Town of Plymouth.

**SECTION II – AUTHORITY**

The Town Board of the Town of Plymouth has the specific authority under § 66.0401 Wis. Stats., and general authority under its village powers under § 60.22, Wis. Stats., to adopt this ordinance.

**SECTION III –INTENT, INTERPRETATION, ABROGATION AND LESSER RESTRICTIONS**

A. Intent

It is the general intent of this Ordinance to regulate, within the limited authority granted to the Town Board by the Sections 66.0401 and 66.0403 of the Wisconsin

Statutes, the installation and use of Solar Energy Systems within the Town of Plymouth.

B. Interpretation

The provisions of this Chapter shall be liberally construed in favor of the Town and public health and safety and shall not be deemed a limitation or repeal of any other power granted by the Wisconsin Statutes.

C. Abrogation and Lesser Restrictions

It is not intended by this Chapter to repeal, abrogate, annul, impair, or interfere with any existing easements, covenants, deed restrictions, agreements, or permits adopted or issued pursuant to law. If any specific provision of this Chapter is found to be a greater restriction than a specific restriction created by Wisconsin Statute Section 66.0401 and defined in Wisconsin Statute Section 13.48(2)(h)1.g., then the lesser restriction of Wisconsin Statute Section 66.0401 shall apply.

#### SECTION IV – DEFINITIONS

In this ordinance:

- A. "Applicant" means an Owner applying to the Town of Plymouth for approval of a Solar Energy System to be sited fully or partially within the Town of Plymouth and/or for a Permit.
- B. "Application" means an application to the Committee for approval of a Solar Energy System to be sited fully or partially within the Town of Plymouth, Rock County, Wisconsin.
- C. "Building-Integrated Solar Energy System" means a combination of building components integrated into any building envelope system such as vertical facades, including glass and other façade material, semitransparent skylight systems, roofing materials and shading over windows, rather than a separate mechanical device, for the purpose of producing electricity for on-site usage or consumption.
- D. "Commercial Communications" includes communications used by government and military entities for emergency purposes, licensed amateur radio service, and non-emergency communications used by agricultural, business, government, and military entities including aviation radar, commercial mobile radio service, fixed wireless service, global positioning, line-of-sight, microwave, Personal Communications service, weather radar, and wireless internet service.

- E. "Committee" means a Solar Energy committee composed of the members of the Town's planning and zoning committee, but excluding the member of the planning and zoning committee who is also a member of the Town Board, and adding a member of the Town's board of adjustment appointed by the Town Chair.
- F. "Community-Scale Solar Energy Systems" means a commercial Solar Energy System that converts sunlight into electricity for the primary purpose of serving electric demands off-site from the facility, either retail or wholesale. Community-Scale Solar Energy Systems are principal uses.
- G. "Decommissioning" means removing solar panels, buildings, cables, electrical components, roads, and any other facilities associated with a Solar Energy System that are located at the site of a Solar Energy System and restoring the site of the Solar Energy System, as close as reasonably possible, to the condition existing prior to installation of the Solar Energy System that was removed.
- H. "Glare" means the effect by reflections of light with intensity sufficient as determined in a commercially reasonable manner to cause annoyance, discomfort, or loss in visual performance and visibility in any material respects
- I. "Ground-Mounted Solar Energy System" means a solar energy system anchored to the ground and mounted on a rack or pole, detached from any other structure for the purpose of producing electricity for on-site or off-site usage or consumption of any kilowatt (kw) alternating current (ac) capacity.
- J. "Large-Scale Solar Energy System" means a solar energy system that is ground-mounted and produces energy for the purpose of on-site usage or consumption with system capacity of more than 25 kW AC and generates no more than 110% of the electricity consumed on the site over the previous 12 months.
- K. "Nonparticipating Property" means real property that is not a Participating Property.
- L. "Nonparticipating Residence" means a residence located on Nonparticipating Property.
- M. "Occupied Community Building" means a school, church or similar place of worship, daycare facility or public library.
- N. "Owner" means:
  - 1. A person with a direct ownership interest in a Solar Energy System, regardless of whether the person was involved in acquiring the necessary rights, permits

and approvals or otherwise planning for the construction and operation of a Solar Energy System.

2. At the time a Solar Energy System is being developed, a person who is acting as a Solar Energy System developer by acquiring the necessary rights, permits and approvals for or by planning for the construction and operation of a Solar Energy System, regardless of whether the person will own or operate the Solar Energy System.
- O. "Participating Property" means any of the following:
1. Property on which a Solar Energy System is located.
  2. Real property that is the subject of an agreement that does all of the following: provides for the payment of monetary compensation to the landowner from an Owner regardless of whether any part of a Solar Energy System is constructed on the property; and specifies in writing any waiver of a requirement or right under this Ordinance and that the landowner's acceptance of payment establishes the landowner's property as a Participating Property.
- P. "Participating Residence" means a residence located on a Participating Property.
- Q. "Personal Communications" includes wireless telecommunications, Personal Communications service, radio, television, wireless internet service, and other systems used for personal use purposes.
- R. "Photovoltaic System" means a solar energy system that converts solar energy directly into electricity.
- S. "Residence" means an occupied primary or secondary personal residence including a manufactured home, a hospital, community-based residential facility, residential care apartment complex or similar facility, or a nursing home. "Residence" includes a temporarily unoccupied primary or secondary personal residence. "Residence" does not include any of the following: (a) recreational vehicles; (b) camping trailers; or (c) permanently abandoned personal residences.
- T. "Residential Solar Energy System" means a Roof-Mounted Solar Energy System located on a Residence.
- U. "Roof-Mounted Solar Energy System" means a solar panel system located on the roof of any legally permitted building or structure for the purpose of producing electricity

- for on-site usage or consumption of any kilowatt (kw) alternating current (ac) capacity.
- V. "Solar Access" means an unobstructed access to direct sunlight on a lot or building through the entire year, including access across adjacent parcel air rights, for the purpose of capturing direct sunlight to operate a solar energy system.
- W. "Solar Collector" means 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.
- X. "Solar Energy Equipment" means electrical energy storage devices, material, hardware, inverters or other electrical equipment and conduit of photovoltaic devices associated with the production of electrical energy.
- Y. "Solar Energy System" means the components and subsystems required to convert solar energy into electric energy suitable for use and storage. The term includes, but is not limited to, solar panels and solar energy equipment. The area of a solar energy system includes all the land inside the perimeter of the solar energy system, which extends to any interconnection equipment.
- Z. "Solar Energy System Emergency" means a condition or situation at a Solar Energy System that presents a significant threat of physical danger to human life or a significant threat to property or a natural event that causes damage to Solar Energy System Facilities.
- AA. "Solar Farm" means the use of land where a series of one or more solar collectors are placed in an area on a parcel of land for the purpose of generating photovoltaic power and said series of one or more solar collectors placed in an area on a parcel of land collectively has nameplate generation capacity of more than 25 kW alternating current ("AC") or more when operating at maximum efficiency for the purpose of off-site sale, usage, and/or consumption. The term solar farm shall not be construed to include, so as to prohibit, or have the effect of prohibiting, the installation of a solar collector that gathers solar radiation as a substitute for traditional energy for water heating, active space heating and cooling, passive heating or generating electricity for a residential property. The term solar farm shall not be construed in such a way as to prohibit the installation or mounting of a series of one or more solar collectors upon the roofs of residential and/or commercial structures regardless of whether said series of one or more solar collectors collectively has a total nameplate generation more than 25kW AC when operating at maximum efficiency.
- BB. "Solar Panel" means a photovoltaic device capable of collecting and converting solar energy into electrical energy.

CC. "Solar Thermal System" means a solar energy system that utilizes solar energy solely to heat water.

DD. "Solar Storage Unit" means a component of a solar energy device that is used to store solar generated electricity or heat for later use.

## SECTION V – APPLICATION PROCEDURE

### A. Permits Required

No Owner may construct a Solar Energy System within the Town of Plymouth or expand an existing or previously approved Solar Energy System within the Town of Plymouth without first obtaining required permits.

### B. Reimbursement of Expenses

The Applicant shall reimburse the Town for all expenses incurred by the Town in conjunction with the review of an Application (including the fees of engineers, attorneys, planners, environmental specialists, and other consultants or experts retained by the Town).

### C. Application and Notice

1. Prior to the filing of an Application with the Town regarding a Solar Energy System, the Owner shall meet with the Town of Plymouth building inspector to discuss the application and the permit process.
2. A building and zoning permit is required for all Solar Energy Systems. Each Application for approval of Solar Energy System shall be filed with the Town Clerk and shall contain the following information:
  - a. To-scale horizontal and vertical elevation drawings signed by a professional engineer or registered architect. The drawings must show the location of the system on the building or on the property for a ground-mounted system, including the property lines.
    - (1) Pitched Roof Mounted Solar Energy Systems: For all roof-mounted systems other than a flat roof, the elevation must show the highest finished slope of the solar collector and the slope of the finished roof surface on which it is mounted. Solar Panels on pitched roofs must be mounted at the same angle as the roof's surface with a maximum distance of eight inches between the roof and highest edge of system and not extend beyond the highest point of the roof system.

- (2) Flat Roof Mounted Solar Energy Systems: For flat roof applications, a drawing shall be submitted showing the distance to the roof edge and any parapets on the building and shall identify the height of the building on the street frontage side, the shortest distance of the system from the street frontage edge of the building, and the highest finished height of the solar collector above the finished surface of the roof. Solar Panels on flat roofs shall not extend above the top of the surrounding parapet, or more than 24 inches above the flat surface of the roof, whichever is higher.
- b. Technical description of solar panels and solar panel sites, including equipment specification sheets that document all photovoltaic panels, significant components, mounting systems and inverters that are to be installed.
  - c. Timeline and process for constructing the Solar Energy System.
  - d. Property operations and maintenance plan. Such plan shall describe continuing photovoltaic maintenance property upkeep, such as mowing and trimming.
  - e. Information regarding anticipated impact of the Solar Energy System on local infrastructure.
  - f. Information regarding anticipated Glare attributable to the Solar Energy System.
  - g. Information regarding anticipated effects of the Solar Energy System on airports and airspace.
  - h. A list of all state and federal permits required to construct and operate the Solar Energy System.
  - i. Information regarding the planned use and modification of roads within the Town during the construction, operation, and Decommissioning of the Solar Energy System, including a process for assessing road damage caused by the Solar Energy System activities and for conducting road repairs at the Owner's expense.
  - j. A Decommissioning site restoration plan providing reasonable assurances that the Owner will be able to comply with VI.
  - k. A representative copy of all notices issued under this Section V.
  - l. Any other information necessary to understand the construction, operation, or Decommissioning of the proposed Solar Energy System.

3. A conditional use permit is required for all Large-Scale Solar Energy Systems and Solar Farms. On the same day that an Application for a Large-Scale Solar Energy Systems or Solar Farms is filed with the Town Clerk, the Applicant shall mail or deliver written notice of the Application to the owners of land adjoining the site where the Applicant plans to install a Solar Energy System and the owners and residents of parcels adjacent to the proposed Solar Energy System.

## SECTION VI – PERMITTED ACCESSORY USE

Solar Energy Systems are a permitted accessory use in all zoning districts where structures of any sort are allowed, subject to certain requirements set forth below. Ground-Mounted Solar Energy Systems shall be an accessory building on lot or lots where there exists a primary structure. Solar Energy Systems that do not meet the following design standards will require a conditional use permit:

### A. Height

Solar Energy Systems must meet the following height requirements:

1. Building-Integrated or Roof-Mounted Solar Energy Systems shall not exceed the maximum allowed height in any zoning district. For purposes of height measurement, Solar Energy Systems other than Building-Integrated Solar Energy Systems shall be given an equivalent exception to height standards as building-mounted mechanical devices or equipment.
2. Ground-Mounted Solar Energy Systems shall not exceed 15 feet in height when oriented at maximum tilt.

### B. Setback

Solar Energy Systems must meet the accessory structure setback for the zoning district and primary land use associated with the property on which the system is located, except as allowed below:

1. Building-Integrated or Roof-Mounted Solar Energy Systems – the collector surface and mounting devices for Roof-Mounted Solar Energy Systems shall not extend beyond the exterior perimeter of the building on which the system is mounted or built, unless the collector and mounting system has been explicitly engineered to safely extend beyond the edge, and setback standards are not violated. Exterior piping for solar hot water systems shall be allowed to extend beyond the perimeter of the building on a side-yard exposure. Solar Collectors mounted on the sides of buildings and serving as awnings are considered to be Building-Integrated Systems and are regulated as awnings.



2. Ground-Mounted Solar Energy Systems – the Solar Collector may not extend into the side-yard or rear setback when oriented at minimum design tilt, except as otherwise allowed for building mechanical systems.

### C. Visibility

Solar Energy Systems in residential districts shall be designed to minimize visual impacts from the public from the public right-of-way, to the extent that doing so does not affect the cost or efficacy of the system, consistent with Wis. Stat. §66.0401.

1. Building-Integrated Solar Energy Systems – it is anticipated that Building-Integrated Solar Energy Systems shall be visible from the public right-of-way, but must still meet all required setbacks, land uses, or performance standards for the district in which the building is located.
2. Aesthetic Restrictions – Roof-Mounted or Ground-Mounted Solar Energy Systems shall not be restricted for aesthetic reasons if the system is not visible from the closest edge of any public-right-of-way other than an alley, or if the system meets the following standards:
  - a. Roof-Mounted Solar Energy Systems on pitched roofs that are visible from the nearest edge of the front right-of-way shall have the same finished pitch as the roof and be no more than ten (10) inches above the roof.
  - b. Roof-Mounted Solar Energy Systems on flat roofs that are visible from the nearest edge of the front right-of-way shall not be more than five feet above the finished roof and are exempt from any rooftop equipment or mechanical system screening.
3. Reflectors – All Solar Energy Systems using a reflector to enhance solar production shall minimize Glare from the reflector affecting adjacent or nearby properties.

### D. Lot Coverage

Ground-Mounted Solar Energy Systems total collector area shall not exceed half the building footprint of the principal structure, if applicable.

1. Ground-Mounted Solar Energy Systems shall be exempt from lot coverage or impervious surface standards if the soil under the collector is maintained in vegetation and not compacted, and the system area is less than one acre in size.
2. Ground-Mounted Solar Energy Systems shall not count toward accessory structure limitations.

3. Solar carports in non-residential districts are exempt from lot coverage limits.

E. Approved Solar Components

Electric Solar Energy System components must have a UL or equivalent listing and solar hot water systems must have an ICC Evaluation Service Solar Rating & Certification Corporation rating.

F. Compliance with Building Code

All Solar Energy Systems shall meet approval of local building code officials, consistent with the State of Wisconsin Building Code, and solar thermal systems shall comply with HVAC-related requirements of the Energy Code.

G. Compliance with State Electric Code

All Photovoltaic Systems shall comply with the Wisconsin State Electric Code.

H. Compliance with State Plumbing Code

Solar Thermal Systems shall comply with the applicable Wisconsin state Plumbing Code requirements.

I. Utility Notification

All grid-intertie Solar Energy Systems shall comply with the interconnection requirements of the electric utility. Off-grid systems are exempt from this requirement.

## SECTION VII – PRINCIPAL USES

A. Principal Uses

The Town of Plymouth encourages the development of Community-Scale Solar Energy Systems where such systems present few land-use conflicts with current and future development patterns. Ground-Mounted Solar Energy Systems that are the principal use on the development lot or lots are conditional uses in all districts.

B. Principal Use General Standards

1. Site Design

- a. Setbacks – Community-Scale and Large-Scale Solar Energy Systems must meet the following setbacks:
  - (1) Property line setbacks for buildings or structures in the district in which the system is located.
  - (2) Roadway setback of 150 feet from the Right-of-way centerline of state and county highways, 100 feet for Town roads.
  - (3) Housing unit setback of 150 feet from any existing dwelling unit or more if set forth in this Zoning Ordinance.
  - (4) Setback distance should be measured from the edge of the Solar Energy System array, excluding security fencing, screening, or berm.
- b. Screening – Community-Scale and Large-Scale Solar Energy Systems shall be screened from existing Residences.
  - (1) A screening plan shall be submitted identifying the type and extent of screening.
  - (2) screening shall not be required along property lines within the same zoning district, except where the adjoining lot has an existing Residence.
  - (3) The Town may require screening where it determines there is a clear community interest in maintaining a viewshed.
- c. Ground cover and buffer areas – the following provisions shall apply to the clearing of existing vegetation and establishment of vegetated ground cover:
  - (1) Large-scale removal of mature trees on the site is discouraged; Owners shall take all reasonable steps to preserve mature trees.
  - (2) Applicant shall submit a vegetative management plan prepared by a qualified professional or reviewed and approved by a natural resource agency or authority, such as the Wisconsin Department of Natural Resources, County Land Conservation Department, or Natural Resource Conservation Service. The plan shall identify:
    - i. The natural resource professionals consulted or responsible for the plan.

- ii. The conservation, habitat, eco-system, or agricultural goals, which may include: providing habitat for pollinators such as bees and monarch butterflies, providing habitat for wildlife such as upland nesting birds and other wildlife, establishing vegetation for livestock grazing, reducing on-site soil erosion, and improving or protecting surface or ground-water quality.
  - iii. The intended mix of vegetation upon establishment.
  - iv. The management methods and schedules for how the vegetation will be managed on an annual basis, with particular attention given to the establishment period of approximately three years.
- (3) Soils shall be planted and maintained in perennial vegetation for the full operational life of the project, to prevent erosion, manage runoff and build soil.
- (4) Vegetative cover should include a mix of perennial grasses and wildflowers that will preferably result in a short stature prairie with a diversity of forbs or flowering plants that bloom throughout the growing season. Blooming shrubs may be used in buffer areas as appropriate for visual screening. Perennial vegetation (grasses and forbs) are preferably native to Wisconsin, but where appropriate to the vegetative management plan goals, may also include other naturalized and noninvasive species which provide habitat for pollinators and wildlife and/or other ecosystem services (i.e. clovers).
- (5) Plant material must not have been treated with systemic insecticides, particularly neonicotinoids.
- d. Foundations – a qualified engineer shall certify that the foundation and design of the Solar Panel racking and support is within accepted professional standards, given local soil and climate conditions.
  - e. Power and communication lines – power and communication lines running between banks of Solar Panels and to nearby electric substations or interconnections with buildings shall be buried underground. Exemptions may be granted by the Town in instances where shallow bedrock, water courses, or other elements of the natural landscape interfere with the ability to bury lines, or distance makes undergrounding infeasible, at the discretion of the Town Board.

## 2. Stormwater and NPDES

Solar farms are subject to the Rock County Stormwater Management and Erosion Control Ordinance and NPDES permit requirements.

### 3. Compliance

All Solar Farms shall be in compliance with all applicable local, state, and federal regulatory codes, including the State of Wisconsin Uniform Building Code, as amended, and the National Electric Code, as amended.

### 4. Site Plan Required

The applicant shall submit a detailed site plan for both existing and proposed conditions, showing locations of all solar arrays, other structures, property lines, right-of-way, service roads, floodplains, wetlands, and other protected natural resources, topography, electric equipment, and all other characteristics requested by the Town. This site plan shall show all zoning districts and overlay districts.

### 5. Aviation Protection

For Solar Farms located within approach zones of an airport, the Applicant must complete and provide the results of a glare analysis through a qualitative analysis of potential impact, field test demonstration, or geometric analysis of ocular impact in consultation with the Federal Aviation Administration ("FAA") Office of Airports, consistent with the Interim Policy, FAA Review of Solar Energy Projects on Federally Obligated Airports, or most recent version adopted by the FAA.

### 6. Agricultural Protection

Solar Farms must comply with site assessment or soil identification standards that are intended to identify agricultural soils. The Town may require mitigation for use of prime soils for solar array placement, including the following:

- a. Demonstrating co-location of agricultural uses (agrivoltaics) on the project site.
- b. The site shall be restored to agriculture at the end of life of the solar installment.
- c. Placing agricultural conservation easements on an equivalent number of prime soils acres adjacent to or surrounding the project site.
- d. Locating the project in a wellhead protection area for the purpose of removing agricultural uses from high-risk recharge areas.

### 7. Decommissioning

A Decommissioning plan shall be required to ensure that facilities are properly removed after their useful life.

- a. Decommissioning of the Solar Energy System must occur in the event the project is not in use for 12 consecutive months.
- b. The plan shall include provisions for removal of all structures and foundations, restoration of soil and vegetation, and assurances that financial resources will be available to fully decommission the site.
- c. The Town may require the posting of a bond, letter of credit, or the establishment of an escrow account to ensure proper Decommissioning.

#### C. Community-Scale Solar Energy Systems

The Town permits the development of Community-Scale Solar Energy Systems, subject to the following standards and requirements:

1. Rooftop gardens permitted – rooftop Community-Scale Solar Energy Systems are permitted in all districts where buildings are permitted.
2. Community-scale uses – Ground-Mounted Community-Scale Solar Energy Systems must cover no more than one (1) acre, and are a permitted use in industrial and agricultural districts, and permitted with standards or conditional in all other non-residential districts. Ground-Mounted Solar Energy Systems covering more than one (1) acre shall be considered Large-Scale Solar Energy Systems.
3. Dimensional standards – all structures must comply with setbacks and height standards for the district in which the system is located.
4. Other standards – Ground-Mounted Solar Energy Systems must comply with all required standards for structures in the district in which the system is located.

#### D. Large-Scale Solar Energy Systems

Ground-Mounted Solar Energy Systems that are the primary use on the Participating Property, designed for providing energy to off-site uses or export to the wholesale market, are conditional uses in agricultural districts, industrial districts, shoreland and floodplain overlay districts, and in the landfill/brownfield overlay district for sites that have completed remediation.

SECTION VII – PENALTIES AND ENFORCEMENT

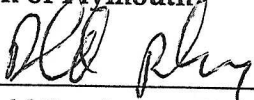
Any person who violates any of the prohibitions, restrictions and requirements set forth in this Ordinance or any conditions established under a permit issued under this Ordinance shall be in violation of this Ordinance and the Town Board may initiate action in any court of competent jurisdiction to impose a forfeiture and/or enjoin the violation. Any person shall, upon conviction of any such violation, forfeit not less than \$200 nor more than \$5,000 for each day the violation continues, together with the costs of prosecution, and, in default of payment, shall be imprisoned in the county jail until such forfeiture is paid, but not to exceed ninety (90) days.


SECTION IX – EFFECTIVE DATE

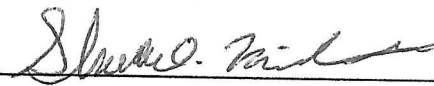
This Ordinance shall take effect and be in force from and after the day after passage and publication as required by law.

Adopted and approved this 10 day of January 2023.

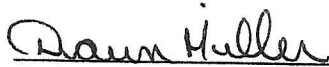
Town of Plymouth

By:   
Donald Bomkamp, Chairperson

By:   
Benjamin Snare, Supervisor

By:   
Shawn Mielke, Supervisor

Attest:

  
Dawn Miller, Deputy Clerk

Date Adopted: 1-10-23

Date Posted: 1-13-23

Effective Date: 1-14-23

A person who receives any of the following...  
The University of Michigan Library...  
in the name of the University of Michigan Library

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The University of Michigan Library...  
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Approved and released by the University of Michigan Library

THE UNIVERSITY OF MICHIGAN LIBRARY

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Director of the University of Michigan Library

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Director of the University of Michigan Library

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Director of the University of Michigan Library

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Director of the University of Michigan Library

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