

HOWELL TOWNSHIP PLANNING COMMISSION

REGULAR MEETING

3525 Byron Road

Howell, MI 48855

July 22, 2025

6:30 pm

1. Call to Order
2. Roll Call:
 - () Wayne Williams - Chair
 - () Chuck Frantjeskos
 - () Robert Spaulding – Vice Chair
 - () Matt Stanley
 - () Mike Newstead – Secretary
 - () Sharon Lollio
 - () Tim Boal – Board Rep.
3. Pledge of Allegiance
4. Approval of the Agenda:
 - Planning Commission Regular Meeting: July 22, 2025
5. Approval of the Minutes:
 - A. Regular Meeting June 24, 2025
6. Call to the Public:
7. Zoning Board of Appeals Report:
8. Township Board Report:
 - Draft Meeting Minutes July 14, 2025
9. Ordinance Violation Report:
10. Scheduled Public Hearings:
 - A. Portable Storage Container and Cargo Container Ordinance
11. Other Matters to be Reviewed by the Planning Commission:
12. Business Items
 - A. Old Business:
 - 1. Renewable Energy Ordinance
 - B. New Business:
 - 1. Mitch Harris Building Co., PC2025-13, Parcel # 4706-27-300-030, Final Site Plan Review
13. Call to the Public:
14. Adjournment

DRAFT

**HOWELL TOWNSHIP PLANNING COMMISSION
REGULAR MEETING MINUTES**

3525 Byron Road Howell, MI 48855

June 24, 2025

6:30 P.M.

MEMBERS PRESENT:

Wayne Williams	Chair
Robert Spaulding	Vice Chair
Mike Newstead	Secretary
Tim Boal	Board Representative

MEMBERS ABSENT:

Chuck Frantjeskos	Commissioner
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Matt Stanley	Commissioner
Sharon Lollo	Commissioner

Also in Attendance:

Township planner Grayson Moore and Zoning Administrator Jonathan Hohenstein

Chairman Williams called the meeting to order at 6:30 pm. The roll was called. Chairman Williams requested members rise for the Pledge of Allegiance.

APPROVAL OF THE AGENDA:

Motion by Boal, **Second** by Spaulding, “**Motion to approve the agenda.**” Motion carried.

APPROVAL OF THE MEETING MINUTES:

May 27, 2025

Motion by Spaulding, **Second** by Newstead, “**To approve the minutes.**” with a friendly amendment to include a note for the NSC Public Hearing Item 10B. Motion carried.

Call to the Public

Robert Wentworth, 3598 Amber Oaks Drive (Representative for Amber Oaks Community)- Spoke on his dissatisfaction with the current setbacks for sheds and would like them to be reconsidered.

ZONING BOARD OF APPEALS REPORT:

None

TOWNSHIP BOARD REPORT:

Draft minutes are included in the packet and Board Representative Boal gave an update. There was a motion and resolution presented to dismiss the American Legion parking lot violation ticket. A pay increase for Township staff was approved, no increase for elected officials. Re-Zoning was approved for the Seyburn parcel and Mr. Juett’s Outside Storage. The ADU Ordinance is coming back to the Planning Commission for further review and the Township is hiring an Enforcement Officer; posting is on the Township website. Zoning Administrator Hohenstein spoke on future changes to the Planning Commission Application.

ORDINANCE VIOLATION REPORT:

Report in packet. Chairman Williams questioned repeated violations. Vice Chair Spaulding questioned the ordinance regarding acres required for tractors parked outside.

Scheduled Public Hearing:

None

Other Areas to be Reviewed by the Planning Commission:

None

BUSINESS ITEMS:

A. Old Business:

1. Renewable Energy Ordinance- Township Planner Moore gave a review of modifications made to the Zoning Ordinance to regulate Renewable Energy Facilities in the Township from the previous Planning Commission meetings. Board Representative Boal questioned what is appropriate and average for volume decibels allowed. Vice Chair Spaulding questioned Ground Energy System requirements and concerns with restrictions to allowed ground coverage on a parcel. Discussion followed. **Motion** by Spaulding, **Second** by Lollo, **"Move to postpone to the next meeting."** Motion carried.
2. ADU Ordinance- Township Planner Moore gave an update on changes to the ADU Ordinance that were requested by the Township Board. Board Representative Boal questioned the cost for the applicant to come in front of the Planning Commission for a Permitted Special Land Use Permit, decreased required parking spaces and his concerns with what will happen once a house with an ADU is sold. Chairman Williams questioned if there needs to be a door between the ADU and primary residence. Discussion followed. **Motion** by Boal, **Second** by Newstead, with a friendly amendment **"To approve the ADU ordinance as presented as permitted through administrative review with the added parking spaces and the document for the deed that was previously discussed."** Motion carried.
3. Storage Container Ordinance- Township Planner Moore gave an update and answered questions on the proposed Zoning Ordinance Amendments for Portable Storage Containers. There was a discussion on accessory structures under 200 sq ft. in a subdivision with a Homeowners Association. Chairman Williams questioned requirements for not having a poured foundation for an accessory building. Board Representative Boal questioned if stacking storage containers was allowed and if less than 5 on a site could be any color. Commissioner Lollo questioned if graphics would be allowed on storage containers on a farm. Discussion followed. **Motion** by Newstead, **Second** by Lollo. **"To postpone action on the proposed text amendment so that the discussed changes can be made at the next meeting."** Motion carried.

CALL TO THE PUBLIC:

Robert Wentworth, 3598 Amber Oaks Dr.- Spoke on smaller parcels under one acre regarding the setbacks for sheds.

ADJOURMENT:

Motion by Newstead, **Second** by Spaulding **"To adjourn."** Motion carried. The meeting was adjourned at 8:30 P.M.

Date

Mike Newstead
Planning Commission Secretary

Marnie Hebert
Recording Secretary

DRAFT

HOWELL TOWNSHIP REGULAR BOARD MEETING MINUTES

3525 Byron Road Howell, MI 48855

July 14, 2025

6:30 P.M.

MEMBERS PRESENT:

Mike Coddington	Supervisor
Sue Daus	Clerk
Jonathan Hohenstein	Treasurer
Tim Boal	Trustee
Matt Counts	Trustee
Shane Fagan	Trustee
Bob Wilson	Trustee

MEMBERS ABSENT:

Also in Attendance:

Six people signed in.

Supervisor Coddington called the meeting to order at 6:30 p.m.

All rose for the Pledge of Allegiance.

CALL TO THE BOARD:

Trustee Fagan declared that he would abstain from voting on item 7-B, Howell Twp. v Fagan – Appeal, due to conflict of interest.

Trustee Boal requested to add item 7-E, American Legion.

APPROVAL OF THE AGENDA:

July 14, 2025

Motion by Hohenstein, **Second** by Boal, **“To approve the agenda, as amended.”** Motion carried – one dissent

APPROVAL OF BOARD MEETING MINUTES:

June 9, 2025

REGULAR BOARD MEETING MINUTES

Motion by Hohenstein, **Second** by Daus, **“To accept the minutes for the regular board meeting of June 9th as presented.”** Motion carried – one dissent.

Request to add Trustee Wilson’s statement as an addendum to the May Board meeting

Motion by Daus, **Second** by Wilson, **“I’ll support that.”** Roll call vote: Hohenstein – no, Counts – yes, Wilson – yes, Boal – no, Daus – yes, Coddington – yes, Fagan – yes. Motion carried (5-2).

Request to add Trustee Boal’s rebuttal to Trustee Wilson’s statement as an addendum to the May Board meeting

Motion by Daus, **Second** by Counts, **“I’ll make the motion.”** Roll call vote: Coddington – yes, Boal – yes, Daus – yes, Counts – yes, Fagan – yes, Hohenstein – no, Wilson – no. Motion carried (5-2).

CALL TO THE PUBLIC:

UNFINISHED BUSINESS:

Supervisor Coddington and Treasurer Hohenstein requested to deviate to item 7-B, Howell Twp v. Fagan – Appeal

A. Howell Township Hall Renovations and Community Center

Supervisor Coddington discussed Lindhout's proposal to provide the oversight of the Township Hall renovations. Discussion followed. **Motion** by Hohenstein, **Second** by Counts, **"To accept the contract with Lindhout Associates for \$21,875.00 as presented."** Motion carried - one dissent.

It was the consensus of the Board to table discussion of the Community Center.

Motion by Hohenstein, **Second** by Counts, **"To deviate to 8-E."** Motion carried.

B. Howell Twp v. Fagan – Appeal

Treasurer Hohenstein explained that the court documents for Howell Township v. Fagan were added to the packet for the Board's review.

C. Cybersecurity / IT – Discussion

Treasurer Hohenstein discussed creating an AD Hock Committee. Discussion followed. **Motion** by Daus, **Second** by Boal, **"To approve the Committee."** Motion carried.

D. ADU Ordinance

Treasurer Hohenstein explained that there were changes made to the ADU. Discussion followed. **Motion** by Hohenstein, **Second** by Boal, **"To accept the Zoning Ordinance to permit ADUs, which is Ordinance No. 292 as presented."** Roll call vote: Wilson – no, Hohenstein – yes, Boal – yes, Fagan – no, Coddington – yes, Daus – yes, Counts – yes. Motion carried (5-2).

E. American Legion

Trustee Boal inquired if further legal opinion had been obtained on the matter of the American Legion's ticket. Discussion followed.

Motion by Daus, **Second** by Counts, **"To go back to 7-A."** Motion carried.

NEW BUSINESS:

A. NSC Zoning District – Text Amendment

Treasurer Hohenstein discussed that the Planning Commission has been working on updating the NSC Zoning District Ordinance to include more uses. **Motion** by Hohenstein, **Second** by Boal, **"To accept the changes to the NSC Zoning District Ordinance No. 293 as presented."** Roll call vote: Boal – yes, Fagan – yes, Daus – yes, Hohenstein – yes, Wilson – yes, Counts – yes, Coddington – yes. Motion carried (7-0).

B. Cemetery Digitization Proposal

Clerk Daus is requesting the Board's approval of a digital mapping software program for Pioneer & Fleming Road Cemeteries. Discussion followed. **Motion** by Hohenstein, **Second** by Daus, **"To accept the agreement with Cemify to digitize the Township Cemetery records as presented."** Motion carried.

C. EMS Polling Place Lease Agreement

Clerk Daus explained that the EMS Polling Place Lease Agreement is due to be renewed. Clerk Daus also indicated that due to disruptive actions at the polling location this will be the last lease agreement that EMS will grant for the Township to utilize as a Polling location. Discussion followed. **Motion** by Hohenstein, **Second** by Daus, **“To accept the amendment to the Polling Place Lease Agreement with Livingston County extending it thru November 2028 as presented.”** Motion carried.

D. Wrangler’s Saloon REU Reduction Request

Treasurer Hohenstein indicated that the Township Sewer Ordinance allows entities to request a reduction in their REUs, and Wrangler’s Saloon has requested a REU reduction for the new building that they are proposing.

Motion by Hohenstein, **Second** by Daus, **“To accept Wrangler’s REU reduction from 29 REUs to 18 REUs with the understanding the Township reserves the right to reevaluate and adjust REUs based on factual findings in the future.”** Motion carried.

E. Letter of Intent to Purchase – Marr Road and Oak Grove Road Property

Eileen Zilch with Community Catalyst discussed the letter of intent (LOI) for the proposed purchase of the Township’s 73.58-acre parcel located on the corner of Marr and Oak Grove Roads. Megan Farkas with DA Building gave a brief overview of the role DA Building would have in working with Community Catalyst. Jim Tischler from the State of Michigan gave a brief overview of how Tax Increment Financing (TIF) works and how Community Catalyst and DA Building would be able to put the TIF into place for a mixed income community. It was the consensus of the Board to table the topic until further information can be obtained. **Motion** by Daus, **Second** by Fagan, **“To table it until next month.”** Motion carried.

F. Park Master Plan Proposal

Treasurer Hohenstein indicated that a Board decision needs to be made for the park master plan. Carlisle Wortman and Spicer Group provided a proposal for the Board to review. **Motion** by Counts, **Second** by Fagan, **“To accept the proposal by Carlisle Wortman and Associates to prepare a Park Master Plan.”** Motion carried.

CALL TO THE PUBLIC

Tess Ware spoke on TIFs and affordable housing in Livingston County

REPORTS:

A. SUPERVISOR:

No report

B. TREASURER:

Treasurer Hohenstein reported on the following: The changeover has been completed for the new credit card processing system, and Comcast has been installed down Brewer Road.

C. CLERK:

No report

D. ZONING:

See Zoning Administrator Hohenstein’s report. Discussion on Bain Road violation. Discussion on Warner Road violation.

E. ASSESSING:

See Assessor Kilpela’s report

F. FIRE AUTHORITY:

Supervisor Coddington reported on Fire Authority

G. MHOG:

Trustee Counts reported on MHOG

H. PLANNING COMMISSION:

Trustee Boal reported on Planning Commission. See draft minutes. Discussion on Planning Commission attendance

I. ZONING BOARD OF APPEALS (ZBA):

No report

J. WWTP:

See report. Treasurer Hohenstein indicated that there may be a future possibility for renting the storage structure on the WWTP property for cold storage

K. HAPRA:

Discussed the upcoming Melon Fest Event

L. PROPERTY COMMITTEE:

Treasurer Hohenstein indicated that a letter was received from the EPA (see report)

M. PARK & RECREATION COMMITTEE:

Treasurer Hohenstein spoke on the Phase II Environmental Site Assessment

N. SHIAWASSEE COMMITTEE:

No report

DISBURSEMENTS: REGULAR AND CHECK REGISTER:

Motion by Hohenstein, **Second** by Daus, **“To accept the disbursements as presented and any normal and customary payments for the month.”** Motion carried.

ADJOURNMENT:

Motion by Daus, **Second** by Counts, **“To adjourn.”** Motion carried. The meeting adjourned (8:41 pm).

Howell Township Clerk
Sue Daus

Mike Coddington
Howell Township Supervisor

Tanya Davidson, Recording Secretary

Monthly Permit List

ADDRESS ASSIGNMENT

Permit #	Applicant	Address	Fee Total	Const. Value
PA23-008	HOWELL TOWNSHIP	1961 MOLLY LANE	\$0.00	\$0.00
Work Description: PUMP STATION LOCATED ON THE CONNER OF MOLLY LANE AND UNION GROVE ROAD, SOUTH OF HENDERSON ROAD AND WEST OF OAK GROVE ROAD.				

Total Permits For Type: 1
Total Fees For Type: \$0.00
Total Const. Value For Type: \$0.00

Commercial Land Use

Permit #	Applicant	Address	Fee Total	Const. Value
P25-111	PAUL ANTHONY HOMES	W HIGHLAND	\$250.00	\$0.00
Work Description: Grading of land around building #12 and the soil erosion controls for this work.				
P25-130	AT & T MOBILE & T	4353 OAK GROVE RD	\$250.00	\$0.00
Work Description: Remove and replace antennas on existing cell tower				

Total Permits For Type: 2
Total Fees For Type: \$500.00
Total Const. Value For Type: \$0.00

Grading

Permit #	Applicant	Address	Fee Total	Const. Value
P25-114	MI HOMES OF MICHIGAN LLC A DELAWARE LIMITED LIABILITY COMPANY	BURKHART - VACANT	\$250.00	\$0.00
Work Description: Phase I - Heritage Square- Site prep, grubbing, silt fence, clearing				

Total Permits For Type: 1
Total Fees For Type: \$250.00
Total Const. Value For Type: \$0.00

MHOG

Permit #	Applicant	Address	Fee Total	Const. Value
PMHOG24-028	ABSOLUTE PLUMBING CHRIS MCGRATH	3735 AMBER OAKS DR	\$0.00	\$0.00
Work Description: 1" irrigation meter				
PMHOG24-032	STAMPER & SONS	39 CASTLEWOOD DR	\$0.00	\$0.00
Work Description: 1" meter horn				
PMHOG24-031	HAWLEY JOHN BURTON	2424 FISHER RD	\$0.00	\$0.00
Work Description: 1' meter package - NOT PICKED UP				
PMHOG24-021	OPERATING ENGINEERS LOCAL 324	275 E HIGHLAND RD	\$0.00	\$0.00

Work Description:

PMHOG25-001	ANDREW JOHNSON	675 E HIGHLAND	\$0.00	\$0.00
Work Description:				
PMHOG24-023	JAC PROPERTY ENTERPRISES LLC	1100 W HIGHLAND	\$0.00	\$0.00
Work Description:				
PMHOG24-026	Spray Masters	3087 IVY WOOD CIR	\$0.00	\$0.00
Work Description:				
PMHOG24-030	UNION AT OAK GROVE	1826 MOLLY LANE	\$0.00	\$0.00
Work Description:				
PMHOG24-007	PINEVIEW VILLAGE CONS. GROUP INC.	1682 PINECROFT LANE	\$0.00	\$0.00
Work Description:				
PMHOG24-008	PINEVIEW VILLAGE CONS. GROUP INC.	1684 PINECROFT LANE	\$0.00	\$0.00
Work Description:				
PMHOG24-020	PINEVIEW VILLAGE CONS. GROUP INC.	1685 PINECROFT LANE	\$0.00	\$0.00
Work Description:				
PMHOG24-019	PINEVIEW VILLAGE CONS. GROUP INC.	1687 PINECROFT LANE	\$0.00	\$0.00
Work Description:				
PMHOG24-018	PINEVIEW VILLAGE CONS. GROUP INC.	1689 PINECROFT LANE	\$0.00	\$0.00
Work Description:				
PMHOG24-017	PINEVIEW VILLAGE CONS. GROUP INC.	1691 PINECROFT LANE	\$0.00	\$0.00
Work Description:				
PMHOG24-015	PINEVIEW VILLAGE CONS. GROUP INC.	1695 PINECROFT LANE	\$0.00	\$0.00
Work Description:				
PMHOG24-014	PINEVIEW VILLAGE CONS. GROUP INC.	1697 PINECROFT LANE	\$0.00	\$0.00
Work Description:				
PMHOG24-013	PINEVIEW VILLAGE CONS. GROUP INC.	1699 PINECROFT LANE	\$0.00	\$0.00
Work Description:				
PMHOG24-024	DABKOWSKI STEPHEN AND LAUREN	3742 WARNER RD	\$0.00	\$0.00
Work Description: 1" Irrigation Meter				

Total Permits For Type:	18
Total Fees For Type:	\$0.00
Total Const. Value For Type:	\$0.00

Residential Land Use

Permit #	Applicant	Address	Fee Total	Const. Value
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P25-116	BILLING WHITE ROOFING LLC	1730 BYRON RD	\$10.00	\$0.00
	Work Description: R & R 1 layer shingles on entire house			
P25-113	CUSTOM DECK CREATIONS	2212 BYRON RD	\$50.00	\$0.00
	Work Description: Demo existing back deck (587 sq ft) and side deck (185 sq ft) and install new Trex composite back deck (571 sq ft) and side deck (147 sq ft)			
P25-129	WIERMAN PAUL	1251 CRESTWOOD LN	\$10.00	\$0.00
	Work Description: Adding mezzanine (stairs to new upstairs storage area), electric, and heat to existing pole barn.			
P25-127	Michael Chosid	1051 ELLINGTON DR	\$0.00	\$0.00
	Work Description: New mobile home installation			
P25-124	Michael Chosid	1052 ELLINGTON DR	\$0.00	\$0.00
	Work Description: New mobile home installation			
P25-126	Michael Chosid	1055 ELLINGTON DR	\$0.00	\$0.00
	Work Description: New mobile home installation			
P25-118	FOX JEFFREY AND MOSSOIAN CHANTAL	5235 FISHER RD	\$10.00	\$0.00
	Work Description: Fill dirt and grading in two spots			
P25-110	MR. ROOF ANN ARBOR, LLC	3451 FLEMING RD	\$10.00	\$0.00
	Work Description: Tear off and re-roof for house only			
P25-115	SMOLYANOV HOME IMPROVEMENTS LLC	4478 GRAPE VINE DR	\$10.00	\$0.00
	Work Description: Tear off and re-roof on house and detached shed			
P25-125	Michael Chosid	4431 RAMSBURY DR	\$0.00	\$0.00
	Work Description: New mobile home installation			
P25-121	Michael Chosid	1031 RIVER LINE DR	\$0.00	\$0.00
	Work Description: New mobile home installation			
P25-120	Michael Chosid	1035 RIVER LINE DR	\$0.00	\$0.00
	Work Description: New Mobile Home Installation			
P25-109	SUPERIOR CUSTOM HOMES	1056 RIVER LINE DR	\$50.00	\$0.00
	Work Description: 10 X 10 treated wood deck on rear of home			
P25-119	SUPERIOR CUSTOM HOMES	1080 RIVER LINE DR	\$50.00	\$0.00
	Work Description: 8' x 18' Trex deck on front of home and 12' x 24' treated wood deck on rear of home.			
P25-122	Michael Chosid	1024 WELLESLEY DR	\$0.00	\$0.00
	Work Description: New mobile home installation			
P25-123	Michael Chosid	1028 WELLESLEY DR	\$0.00	\$0.00
	Work Description: New mobile home installation			
P25-117	NORTHGATE CONSTRUCTION	1072 WILLOW LN	\$10.00	\$0.00
	Work Description: Tear off and re-roof house and attached garage			
P25-128	Michael Chosid	4417 WILLOWBANK DRIVE	\$0.00	\$0.00
	Work Description: New mobile home installation			

Total Permits For Type:	18
Total Fees For Type:	\$210.00
Total Const. Value For Type:	\$0.00

Sewer Connection

Permit #	Applicant	Address	Fee Total	Const. Value
PWS25-078	Michael Chosid	1051 ELLINGTON DR	\$2083.33	\$0.00
Work Description: Sewer connection				
PWS25-072	Michael Chosid	1052 ELLINGTON DR	\$2083.33	\$0.00
Work Description: Sewer connection				
PWS25-076	Michael Chosid	1055 ELLINGTON DR	\$2083.33	\$0.00
Work Description: Sewer connection				
PWS25-062	STREAMLINE DEVELOPMENT	3110 OAK GROVE RD	\$5000.00	\$0.00
Work Description: one sewer hook up				
PWS25-074	Michael Chosid	4431 RAMSBURY DR	\$2083.33	\$0.00
Work Description: Sewer connection				
PWS25-066	Michael Chosid	1031 RIVER LINE DR	\$2083.33	\$0.00
Work Description: Sewer connection				
PWS25-064	Michael Chosid	1035 RIVER LINE DR	\$2083.33	\$0.00
Work Description: Sewer connection				
PWS25-068	Michael Chosid	1024 WELLESLEY DR	\$2083.33	\$0.00
Work Description: Sewer connection				
PWS25-070	Michael Chosid	1028 WELLESLEY DR	\$2083.33	\$0.00
Work Description: Sewer connection				
PWS25-080	Michael Chosid	4417 WILLOWBANK DRIVE	\$2083.33	\$0.00
Work Description: Sewer connection				

Total Permits For Type:	10
Total Fees For Type:	\$23749.97
Total Const. Value For Type:	\$0.00

Sign

Permit #	Applicant	Address	Fee Total	Const. Value
P25-112	R. GARI SIGN	4706-29-400-008	\$175.00	\$0.00
Work Description: Reface existing ground monument at entrance drive. New face panels are 4'tall x 8' wide per layout. Double sided. white 4' x 8' backer board is metal. Letters are flat vinyl. Non-lit sign.				

Total Permits For Type:	1
Total Fees For Type:	\$175.00
Total Const. Value For Type:	\$0.00

Temporary Land Use

Permit #	Applicant	Address	Fee Total	Const. Value
P24-189	PINEVIEW VILLAGE CONS. GROUP INC.	1682 PINECROFT LANE	\$0.00	\$0.00
Work Description: Temporary model/sales office				

Total Permits For Type:	1
Total Fees For Type:	\$0.00
Total Const. Value For Type:	\$0.00

Water Connection

Permit #	Applicant	Address	Fee Total	Const. Value
PWS25-077	Michael Chosid	1051 ELLINGTON DR	\$2083.33	\$0.00
Work Description: water connection				
PWS25-071	Michael Chosid	1052 ELLINGTON DR	\$2083.33	\$0.00
Work Description: water connection				
PWS25-075	Michael Chosid	1055 ELLINGTON DR	\$2083.33	\$0.00
Work Description: water connection				
PWS25-061	STREAMLINE DEVELOPMENT	3110 OAK GROVE RD	\$5000.00	\$0.00
Work Description: one water hook up				
PWS25-073	Michael Chosid	4431 RAMSBURY DR	\$2083.33	\$0.00
Work Description: water connection				
PWS25-065	Michael Chosid	1031 RIVER LINE DR	\$2083.33	\$0.00
Work Description: water connection				
PWS25-063	Michael Chosid	1035 RIVER LINE DR	\$2083.33	\$0.00
Work Description: water connection				
PWS25-067	Michael Chosid	1024 WELLESLEY DR	\$2083.33	\$0.00
Work Description: water connection				
PWS25-069	Michael Chosid	1028 WELLESLEY DR	\$2083.33	\$0.00
Work Description: water connection				
PWS25-079	Michael Chosid	4417 WILLOWBANK DRIVE	\$2083.33	\$0.00
Work Description: water connection				

Total Permits For Type:	10
Total Fees For Type:	\$23749.97
Total Const. Value For Type:	\$0.00

Grand Total Fees:	\$48,634.94
Grand Total Permits:	62.00

Code Enforcement List

07/01/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
3735 PARSONS RD Complaint A lot of trash has been outside for over 6 months. The house is being powered by a generator.	O'CONNOR SEAN AND	4706-28-300-012	05/05/2025	PUBLIC - COMPL	OPEN - COMPLANT RECEIVE
Comments 5.5.25 - Complaint received 5.7.25 - Site visit completed, photos attached 5.8.25 - Letter sent to owners 6.16.25 - Received letter back, not deliverable. Called owner, no response, VM full. Carol researched owners - found alternative address 6.17.25 - Mailed letter to new address					
5495 OAK GROVE RD Complaint Blighted property and Nuisance . Property is in a condition and disrepair. Accumulation of filth, garbage, dismantled cars, auto parts, vegetation overgrowth, decayed trees, junk, animal excrement and vermin.	LORENZ ROBERT & TR	4706-02-401-001	05/01/2025	ANONYMOUS	OPEN - COMPLANT RECEIVE
Comments 5.1.25 - Received complaint 5.7.25 - Site visit completed, photos attached, letter sent to owners 6.16.25 - Site visit completed, no apparent clean up efforts underway, photos attached, letter sent to owners					

Code Enforcement List

07/01/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
1013 E MARR RD Complaint Excessive noise from construction equipment entering and leaving the property for an at home business.	BOUDREAU BRIAN AN	4706-12-400-031	04/08/2025	PUBLIC - EMAIL	OPEN - COMPLANT RECEIVE
Comments 4.7.25 - Complaint received 4.10.25 - Site visit completed, photos attached 4.14.25 - Photos and videos provided by complainant 4.30.25 - Site visit completed, photos attached 5.9.25 - Photos and videos provided by complainant 5.15.25 - Spoke to complainant, reviewed evidence provided 5.21.25 - Violation letter sent to owners 6.5.25 - Received email from owner 6.12.25 - Response email sent to owner 6.12.25 - Owner called to discuss the Township's response email, said that the dump truck has not been on-site since November, and that for a few weeks 2-3 office staff were reporting to the house while they were switching offices in Howell. Owner will be providing a written response to the Township 6.16.25 - Site visit completed, photos attached.					
2900 BREWER RD Complaint Broken down vehicle in front yard, farm tractor on a lot under 2 acres.	LECHEVALIER KAYED	4706-22-200-014	02/13/2025	PUBLIC - EMAIL	OPEN - COMPLANT RECEIVE
Comments 2.13.25 - Received complaint 2.14.25 - Spoke to homeowner about violations 2.19.25 - Letter sent to homeowner 2.19.25 - Homeowner provided proof of registration and insurance 2.25.25 - Spoke to homeowner and Twp. Planner RE parking 3.31.25 - Site visit completed, violations still present. Waiting on letter from Twp. Planner.					

Code Enforcement List

07/01/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
3408 CHERYL DR Complaint Has 3 junk cars, junk boat, junk camper, and at least 80 yards of debris scattered in his backyard.	MELTON HAROLD D &	4706-14-401-029	02/10/2025	PUBLIC - EMAIL	OPEN - COMPLANT RECEIVE
Comments 2.10.25 - Complaint received. 2.11.25 - Site visit completed. 2.12.25 - Letter sent to owner. 2.18.25 - Owner came into the Township and discussed the violations. The owner has agreed to a schedule to remediate the violations. 3.31.25 - Site visit completed, no visible change. 4.30.25 - Site visit completed, one vehicle no longer on site 5.15.25 - Spoke to homeowner, is requesting extension until July 1st to get the property in compliance. Letter sent to owner RE agreement 6.16.25 - Site visit completed, photos attached. 6.16.25 - Contacted owner for update, boat has been removed from the property, working on dismantling and scrapping the camper, will be removing the Cadillac, and the truck or proving that it is in active service.					

Code Enforcement List

07/01/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
5704 CRANDALL RD Complaint	JEWETT RICHARD L &	4706-05-200-004	11/25/2024	PUBLIC - EMAIL	OPEN - COMPLANT RECEIVE
A person is living in an RV in the back of the property against Township Ordinance.					
Comments					
12.10.24 - Site visit completed. RV is located in the back of the property. Letter sent to owner.					
1.27.25 - Site visit completed. No visible change. Letter sent to owner.					
2.11.25 - Requested additional information from complainant					
3.10.25 - January letter returned unclaimed.					
3.11.25 - December letter returned unclaimed.					
3.31.25 - Site visit completed. New letter mailed out.					
4.7.25 - Copy of letter given to homeowner. Spoke to homeowner - admitted that someone is living in the RV. Follow up letter sent to owner.					
4.14.25 - Spoke to homeowner on the phone. Spoke to Jake at LCHD on the phone, they received a complaint about sewage being discharged onto the ground from one of the RVs. Spoke to person staying in the RV (Wes Gray) on the phone. Jake from LCHD and I made a visit to the site, spoke to Wes. Wes understands that he cannot live in an RV on the property. We agreed to 30 days to remove his things from the site.					
4.30.25 - Site visit completed, Wes appears to be working on getting his things removed.					
5.14.25 - Spoke to the homeowner, Wes moved some things but has started building a new trailer. Owner will call the Sheriff's Department to understand her options to get Wes removed from her property.					
5.19.25 - Spoke to Wes, he has removed a lot of stuff but would like until June 1, 2025 to remove the rest of his stuff. He will provide receipts for the dumpster that he used. Twp will make a site visit and confirm that progress has been made. If progress has been made then we are willing to extend deadline to June 1.					
5.19.25 - Site visit completed, some clean up has taken place, photos attached. Spoke to homeowner, admits a lot of work has been done and has no issue with Wes's request to extend deadline to June 1. Letter sent to owner to confirm same.					
06-02-25- MH- Spoke with Wes and he doesn't have any where to go, fractured his hand and hurt his back moving stuff off the property. He is still trying to move stuff off the property. Jonathan is out of the office so I let him know he would be contacted when he returns.					
6.12.25 - Spoke to Wes, said he has hurt his hand but still intends to remove his things from the property. We agreed to an extension to July 31st for all things to be removed from the property, no further extensions will be granted for any reason. Will prepare letter to owners RE same.					
6.16.25 - Site visit completed, some changes have been made, photos attached.					

Code Enforcement List

07/01/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
4141 W GRAND RIVER A Complaint House is neglected, building unsafe, junk in yard.	TONON CHIARINA S	4706-20-400-012	09/24/2024		OPEN - COMPLANT RECEIVE
Comments 9.24.24 - Contacted Livingston County Building Department RE performing dangerous building inspection. 10.3.24 - Received LCBD determination letter. Contacted Spicer RE Dangerous Buildings Hearing Officer availability. Spicer does not currently have availability to perform these duties. 10.17.24 - Letter sent to owner. 12.19.24 - No response received. Second letter sent to owner with tracking. 1.9.25 - Spoke to owner, is getting quotes from companies to demolish the structures. Provided contact information to Township and will stay in touch with progress reports. 1.27.25 - Violation still present. 3.31.25 - Site visit completed, violation still present, no visible change 4.30.25 - Site visit completed, violation still present, no visible change, will reach out to owners 5.7.25 - Left message for owner 5.9.25 - Received voicemail from owner, they are currently working through asbestos testing, getting the site taken care of in 4-6 weeks 5.14.25 - Spoke to the company that will be performing the demolition and discussed the permitting process 6.16.25 - Site visit completed, no change					

Code Enforcement List

07/01/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
3265 W GRAND RIVER A Complaint Starting to add more parking on adjacent lot owned by MDOT without permits.	AMERICAN LEGION P	4706-28-200-010	05/21/2024		OPEN - COMPLANT RECEIVE
Comments 4.25.24 - Received call regarding work being done by American Legion. Site visit, verified work was underway. Contacted MDOT RE approval. 5.21.24 - Site visit completed, violation still present. Sent letter to American Legion. 6.18.24 - Site visit. More work has been completed including installing gravel in excavated area and a tent and fencing has been erected next to gravel area on MDOT property. Letter sent to American Legion. 8.1.24 - Site visit completed. Tent and fencing have been removed, large pile of dirt has been removed, additional gravel parking area still on MDOT property. 9.4.24 - Site visit completed. Violation still present. Posted Notice of Violation Ticket to front door, mailed a copy of the violation. Ticket #: 0202 9.4.24 - Phone conversation with Commander Laura Goldthwait. Requested letter explaining the violation and steps moving forward. Mailed to Legion, emailed to Laura, attached. 9.12.24 - Received correspondence from Legion's attorney denying all responsibility. Documents provided to Township's attorney. Township's attorney has contacted Legion's attorney. 10.8.24 - Site visit completed. Photos of Legion using the additional parking attached. 12.10.24 - Site visit completed. Christmas trees located in additional parking area and land east of building. Letter sent regarding temporary uses requiring permits. 1.27.25 - No change to property 3.31.25 - No change to property 4.30.25 - No change to property 6.16.25 - Site visit completed, photos attached, tent and fencing have been installed by the Legion on MDOT Property, no change to the additional parking area					

Code Enforcement List

07/01/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
3590 W GRAND RIVER Complaint Zoning Violations:Outdoor storage without screening, setback issues, parking not hard surfaced, no sign permit.	HASLOCK PROPERTIE	4706-28-100-024	05/06/2024		OPEN - FIRST LETTER SENT
Comments 5.13.24 - Violation letter to Occupant returned. 5.20.24 - Received phone call from owner. Will be preparing a site plan to take before the Planning Commission for approval. 6.20.24 - Received phone call from owner, discussed site plan requirements. 9.4.24 - Sent letter to owner RE site plan progress. 9.12.24 - Spoke to owner, Engineer has site plans almost complete. Will submit for review in the near future. 2.27.25 - Spoke to owner, Engineer will be submitting plans in the next week or two. 3.31.25 - Site visit completed, violations still present 4.30.25 - Site visit completed, violations still present 5.1.25 - Property owner turned in site plan. Currently considering if they would like to schedule a pre-conference prior to formally submitting the site plan. 6.9.25 - Spoke to the owner about next steps to move the site plan forward, owner is considering pairing down what has been proposed. 6.16.25 - Site visit completed, photos attached.					

Code Enforcement List

07/01/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
5057 WARNER RD Complaint LARGE AMOUNT OF JUNK AND LITTER IN THE YARD.	HARTER EDWARD H	4706-19-200-005	03/14/2022	PUBLIC/ EMAIL	OPEN - SECOND LETTER SEN
Comments					
4.17.2023 THERE IS MORE JUNK NOW THEN THERE WAS LAST MARCH OF 2022 OR JANUARY OF 2023.					
5.25.2023 I SPOKE WITH MR. HARTER HE IS STARTING TO CLEAN THE SITE UP, HE SAID THAT IT WILL TAKE SOME TIME TO GET IT ALL CLEANED UP. I WILL BEE CHECKING ON HIS PROGRESS EVERY FEW WEEKS TO MAKE SURE HE IS MAKING PROGRESS.					
6.29.2023 SOME PROGRESS HAS BEEN MADE. WILL CHECK BACK IN A COUPLE OF WEEKS.					
1.9.2024 did a site vist there has been no progress made on the clean up.					
1.11.2024 Finial letter sent.					
3.20.24 - Site visit. No remediation of issues has taken place. Photos attached.					
3.25.24 Spoke to owner. Owner is working on cleaning up the property, has dumpsters being delivered, scrap is in piles and ready to be taken to the scrap yard. Has requested 3 months to get the property cleaned up. Letter sent in confirmation of agreement. Scheduled visit for June 25th.					
4.23.24 - Site visit. Violation still present. Scheduled reinspection.					
5.20.24 - Site visit. Work has been started. Violation still present. Scheduled reinspection.					
6.18.24 - Site visit. Violation still present, no evidence of continued clean up activity. Will reinspect on June 25th as agreed.					
6.25.24 - Site visit. Minimal changes to site, violation still present. Letter sent to owner.					
8.1.24 - Site visit completed. Owner still working on clean-up.					
9.4.24 - Site visit completed, spoke to homeowner. Owner claims to have back of property nearly complete. Dumpster to be arriving next week, neighbors helping to remove scrap in the next few days.					
10.8.24 - Site visit completed. No evidence of activity. Final violation letter sent to owner.					
11.6.24 - Site visit completed. No evidence of activity. Will check property on 11.14.24 per letter.					
11.14.24 - Site visit completed. No evidence of activity. Ticket number 0204 issued. Ticket mailed to homeowner 11.18.24.					
12.4.24 - Spoke to homeowner. He will be completing a clean-up schedule and providing it to the Township. If the schedule is followed and clean-up of property is achieved ticket will be waived.					
12.10.24 - Schedule has not been provided to Township. Site visit completed, no change.					
1.27.25 - Site visit completed, no change. Schedule has not been provided to Township. Final violation letter sent to owner.					
2.3.25 - Received phone call from owner's wife, owner is currently in jail. By February 24th they will contact the Township to discuss deadlines for removing the junk from the site. Letter sent to owner to confirm same.					
2.24.25 - Spoke to owner's wife.					
2.28.25 - Spoke to owner's wife, came to agreement on clean up schedule. Letter on agreement sent to owner.					
3.17.25 - 2.28 letter returned. Mailed out letter again.					
3.21.25 - Homeowner left message stating that all scrap metal has been removed, two vehicles will be removed this week. We may stop by any time to see the progress.					
3.31.25 - Site visit completed, violation still present					
4.30.25 - Site visit completed, violation still present. May 4th is the clean-up deadline, will make site visit Monday May 5th to check status.					

Code Enforcement List

07/01/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
5.7.25 - Site visit completed, violation still present. Posted ticket #0159 to the structure, filed ticket with the District Court and requested an informal hearing, mailed copy of ticket to owner.					
5.19.25 - Received information from District Court setting formal hearing date. Contacted the court to switch to an informal hearing as originally requested.					
6.10.25 - Called Court RE informal hearing date, Court's system indicated that the ticket had been paid and closed.					
6.16.25 - Site visit completed, no apparent change, photos attached. Ticket filed with Court - requested informal hearing, ticket posted to structure and mailed to owner.					

Records: 10

Population: All Records



Carlisle | Wortman

ASSOCIATES, INC.

117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

TO: Howell Township Planning Commission

FROM: Paul Montagno, AICP, Principal and Grayson Moore, Planner

DATE: July 16, 2025

RE: Proposed Zoning Ordinance Amendments for Portable Storage Containers

This memo addresses concerns raised at the May 27, 2025 and the June 24, 2025 Planning Commission meetings regarding accessory structure regulations, particularly as they relate to accessory structures that are 200 square feet or less as well as portable storage containers and cargo containers.

The previously adopted ordinance established new regulations for cargo containers and portable storage units within residential districts. In response to community feedback and Planning Commission discussion, the proposed amendments provide clarification and introduce new provisions for the use of cargo containers in commercial, office, and industrial districts.

In addition, the amendments propose changes to how accessory structures 200 square feet or less are regulated. These revisions are intended to remove overly stringent requirements for small, non-permanent structures that are exempt from building code standards.

Please note the following modifications for accessory structures 200 square feet or less:

- A three (3) foot setback from all property lines,
- A five (5) foot setback from the principal building, and

We look forward to discussing these proposed Zoning Ordinance amendments at your next Planning Commission meeting.

Sincerely,

CARLISLE/WORTMAN ASSOC., INC.
Paul Montagno, AICP
Principal

CARLISLE/WORTMAN ASSOC., INC.
Grayson Moore
Community Planner

Benjamin R. Carlisle, *President* John L. Enos, *Vice President* Douglas J. Lewan, *Principal*
 David Scurto, *Principal* Sally M. Elmiger, *Principal* R. Donald Wortman, *Principal* Craig Strong, *Principal*
 Paul Montagno, *Principal*, Megan Masson-Minock, *Principal*, Laura Kreps, *Principal*
 Richard K. Carlisle, *Past President/Senior Principal*

SECTION 1 MODIFY SECTION 2.02, DEFINITIONS, TO MODIFY CARGO CONTAINERS DEFINITION

Cargo Containers. A primarily metal weather-resistant container designed to store or ship goods or building materials. Such containers include reusable steel boxes, freight and bulk shipping containers, and those with similar qualities. ~~which are intended for use as an accessory building or structure.~~

SECTION 2 MODIFY SECTION 4.04, PERMITTED ACCESSORY USES, TO UPDATE CARGO CONTAINER LANGUAGE AS PERMITTED ACCESSORY USES WITHIN THE AGRICULTURAL RESIDENTIAL DISTRICT

SECTION 4.04 PERMITTED ACCESSORY USES.

- A. Buildings and structures customarily incidental to the operation of an agricultural enterprise.
- B. Accessory buildings and structures customarily incidental to single family residential.
- C. Signs related to the permitted agricultural enterprise, provided that all such signs shall conform to the requirements of this Ordinance.
- D. House Hold Pets
- E. Cargo Containers, ~~as an accessory structure~~, subject to Section 14.07

SECTION 3 MODIFY SECTION 5.04, PERMITTED ACCESSORY USES, TO REMOVE CARGO CONTAINERS AS PERMITTED ACCESSORY USES WITHIN THE RESEARCH AND TECHNOLOGY DISTRICT

Section 5.04 PERMITTED ACCESSORY USES

- A. Normal accessory is uses to all permitted uses in Sections 5.02 and 5.03 above.
- ~~B. Cargo Containers, see Section 14.07~~

SECTION 4 MODIFY SECTION 5.05, PERMITTED CONDITIONAL ACCESSORY USES, TO INCLUDE CONDITIONS FOR CARGO CONTAINERS AS PERMITTED CONDITIONAL ACCESSORY USES WITHIN THE RESEARCH AND TECHNOLOGY DISTRICT

Section 5.05 PERMITTED CONDITIONAL ACCESSORY USES

The following accessory uses are permitted when they are an integral part of the permitted principal use or permitted principal special use and are located within the building or structure housing the permitted use or permitted principal special use or are included as a separate accessory use structure on the site plan upon the site upon which the permitted principal use or permitted principal use or permitted special use are located:

- A. Cafeterias
- B. Medical and health care facilities

- C. Office facilities
- D. Warehouses and storage facilities
- E. Recreation and physical fitness facilities
- F. Banking facilities
- G. Education, library and training facilities
- H. Research, experimentation and development facilities
- I. Truck, other vehicular and equipment maintenance and repair service
- J. Storage Facilities
- K. Sales display facilities and areas
- E. Cargo Containers, ~~see Section 14.07 as an accessory structure~~, subject to Section 14.07
 - 1. Any site containing three (3) or more cargo containers shall ensure that all containers are of a similar, neutral color such as beige, gray, brown, tan, or muted green.

SECTION 5 MODIFY SECTION 8.04, PERMITTED ACCESSORY USES, TO REMOVE CARGO CONTAINERS AS PERMITTED ACCESSORY USES WITHIN THE OFFICE SERVICE DISTRICT

Section 8.04 PERMITTED ACCESSORY USES.

- A. Normal accessory uses to “Permitted Principal Uses.”
- B. Normal accessory uses to approved “Permitted Principal Special Uses.”
- C. Incidental commercial services that serve only the occupants of the offices and have access only from inside the building in which the occupants are located.
- D. See Section 14.34.
- ~~E. Cargo Containers, subject to Section 14.07~~

SECTION 6 MODIFY SECTION 8.05, PERMITTED ACCESSORY USES WITH CONDITIONS, TO INCLUDE CONDITIONS FOR CARGO CONTAINERS AS PERMITTED ACCESSORY USES WITH CONDITIONS WITHIN THE OFFICE SERVICE DISTRICT

Section 8.05 PERMITTED ACCESSORY USES WITH CONDITIONS.

- 1. Private swimming pools for use as a part of an Office District used in conformance with the provisions of Section 14.18.
- 2. Cargo Containers, ~~as an accessory structure~~, subject to Section 14.07.I
 - a. No more than one cargo container is permitted per acre, with a maximum of two (2) containers per parcel.

SECTION 7 MODIFY SECTION 9.05, PERMITTED ACCESSORY USES WITH CONDITIONS, TO INCLUDE CARGO CONTAINERS AS PERMITTED ACCESSORY USES WITH CONDITIONS WITHIN THE NEIGHBORHOOD SERVICE COMMERCIAL DISTRICT

~~Section 9.05~~ Section 9.06 DIMENSIONAL REQUIREMENTS EXCEPT AS OTHERWISE SPECIFIED IN THIS ORDINANCE.

Section 9.05 PERMITTED ACCESSORY USES WITH CONDITIONS.

1. Cargo Containers as an accessory structure, subject to Section 14.07.I
 - a. No more than one cargo container is permitted per acre, with a maximum of two containers per parcel.

SECTION 8 MODIFY SECTION 10.04, PERMITTED ACCESSORY USES, TO REMOVE CARGO CONTAINERS AS PERMITTED ACCESSORY USES WITHIN THE REGIONAL SERVICE COMMERCIAL DISTRICT

Section 10.04 PERMITTED ACCESSORY USES.

- A. Normal accessory uses to all “Permitted Principal Uses.”
- B. Normal accessory uses to all “Permitted Principal Special Uses.” See Section 14.34. 14.

~~C. Cargo Containers, subject to Section 14.07~~

SECTION 9 MODIFY SECTION 10.05, PERMITTED ACCESSORY USES WITH CONDITIONS, TO INCLUDE CARGO CONTAINERS AS PERMITTED ACCESSORY USES WITH CONDITIONS WITHIN THE REGIONAL SERVICE COMMERCIAL DISTRICT

~~Section 10.05~~ Section 10.06 DIMENSIONAL REQUIREMENTS, EXCEPT AS OTHERWISE SPECIFIED IN THIS ORDINANCE.

Section 10.05 PERMITTED ACCESSORY USES WITH CONDITIONS.

- A. Cargo Containers, as an accessory structure, subject to Section 14.07.I
 1. No more than one cargo container is permitted per acre, with a maximum of two (2) containers per parcel.

SECTION 10 MODIFY SECTION 11.04, PERMITTED ACCESSORY USES, TO REMOVE CARGO CONTAINERS AS PERMITTED ACCESSORY USES WITHIN THE HIGHWAY SERVICE COMMERCIAL DISTRICT

Section 11.04 PERMITTED ACCESSORY USES.

- A. Normal accessory uses to all “Permitted Principal Uses.”
- B. Normal accessory uses to all “Permitted Principal Special Uses.”

~~C. Cargo Containers, subject to Section 14.07~~

SECTION 11 MODIFY SECTION 11.05, PERMITTED ACCESSORY USES WITH CONDITIONS, TO INCLUDE CARGO CONTAINERS AS PERMITTED ACCESSORY USES WITH CONDITIONS WITHIN THE HIGHWAY SERVICE COMMERCIAL DISTRICT

Section 11.05 PERMITTED ACCESSORY USES WITH CONDITIONS.

- A. Swimming pools for use as a part of a Highway Service Commercial District. Use in conformance with the provisions of Section 14.18.
- B. Cargo Containers, as an accessory structure, subject to Section 14.07.
 - 1. Any site containing three (3) or more cargo containers shall ensure that all containers are of a similar, neutral color such as beige, gray, brown, tan, or muted green.

SECTION 12 MODIFY SECTION 12.04, PERMITTED ACCESSORY USES, TO REMOVE CARGO CONTAINERS AS PERMITTED ACCESSORY USES WITHIN THE INDUSTRIAL FLEX ZONE

Section 12.04 PERMITTED ACCESSORY USES.

A. All normal accessory uses to all “Permitted Principal Uses” and “Permitted Principal Special Uses” including:

- 1. Restaurants.
- 2. Cafeterias.
- 3. Medical and health care facilities.
- 4. Office facilities.
- 5. Warehouse and storage facilities.
- 6. Physical fitness facilities.
- 7. Work clothing sales and service facilities.
- 8. Banking facilities.
- 9. Education, library and training facilities.
- 10. Research and experimentation facilities.
- 11. Truck or other vehicular and equipment service maintenance, repair and storage facilities conducted completely within a building or structure.
- 12. Indoor sales display areas.
- 13. See Section 14.34.
- ~~14. Cargo Containers, subject to Section 14.07~~

SECTION 13 MODIFY SECTION 12.05, PERMITTED ACCESSORY USES WITH CONDITIONS, TO INCLUDE CARGO CONTAINERS AS PERMITTED ACCESSORY USES WITH CONDITIONS WITHIN THE INDUSTRIAL FLEX ZONE

~~Section 12.05~~ Section 12.06 REQUIRED CONDITIONS OF ALL DISTRICT USES.

~~Section 12.06~~ Section 12.07 DIMENSIONAL REQUIREMENTS, EXCEPT AS OTHERWISE SPECIFIED IN THIS ORDINANCE.

Section 12.05 PERMITTED ACCESSORY USES WITH CONDITIONS.

A. Cargo Containers, as an accessory structure, subject to Section 14.07.

1. The Planning Commission may approve an increased number of cargo containers if all the following conditions are met:
 - a. The additional containers do not adversely impact adjacent properties or the character of the district.
 - b. The primary use of the parcel is an industrial, warehousing, distribution, or a use of a similar manner where additional on-site storage is demonstrably necessary to support the principal operations.
 - c. Containers will not occupy any required parking spaces.
 - d. All containers are appropriately screened and do not obstruct access or circulation.
2. Any site containing more than five (5) cargo containers shall ensure that all containers are of a similar, neutral color such as a beige, gray, brown, tan, or muted green.
3. Cargo containers may be permitted in the absence of a principal building when the primary use of the lot is outdoor storage or other use where the storage function is integral to the principal use.
4. Cargo containers being used to store or ship goods or building materials associated with a storage or shipping facility shall not be subject to limitations on the number of containers permitted.

SECTION 14 MODIFY SECTION 13.04, PERMITTED ACCESSORY USES, TO REMOVE CARGO CONTAINERS AS PERMITTED ACCESSORY USES WITHIN THE INDUSTRIAL DISTRICT

Section 13.04 PERMITTED ACCESSORY USES.

- A. Normal accessory uses to all Permitted Principal Uses.
- B. Normal accessory uses to all Permitted Principal Special Uses.
- C. See Section 14.34

~~D. Cargo Containers, see Section 14.07~~

SECTION 15 MODIFY SECTION 13.05, PERMITTED ACCESSORY USES WITH CONDITIONS, TO INCLUDE CARGO CONTAINERS AS PERMITTED ACCESSORY USES WITH CONDITIONS WITHIN THE INDUSTRIAL DISTRICT

Section 13.05 PERMITTED ACCESSORY USES WITH CONDITIONS.

The following uses are permitted when they are an integral part of the building or structure or are included as a part of the site development upon which the principal use is located:

- 1) Restaurants
- 2) Medical and health care facilities
- 3) Office facilities
- 4) Warehouse and storage facilities

- 5) Recreation and physical fitness facilities
- 6) Work-clothing sales and service facilities
- 7) Banking facilities
- 8) Education, library and training facilities
- 9) Research and experimentation facilities
- 10) Truck and equipment service, maintenance, repair and storage facilities
- 11) Sales display facilities and areas
- 12) See Section 14.34
- 13) Cargo Containers as an accessory structure, subject to Section 14.07
 - a. The Planning Commission may approve an increased number of cargo containers if all the following conditions are met:
 - i. The primary use of the parcel is industrial, warehousing, distribution, or use of a similar manner.
 - ii. The containers are able to be arranged in a safe, orderly manner and do not interfere with emergency access, traffic flow, or required parking.
 - iii. All containers are appropriately screened and do not obstruct access or circulation.
 - b. Any site containing three (3) or more cargo containers shall ensure that all containers are of a similar, neutral color such as beige, gray, brown, tan, or muted green.
 - c. Cargo containers may be permitted in the absence of a principal building when the primary use of the lot is outdoor storage or another use where the storage function is integral to the principal use.
 - d. All cargo containers must comply with the additional requirements outlined in Section 14.07.I
 - e. Cargo containers being used to store or ship goods or building materials associated with a storage or shipping facility, shall not be subject to limitations on the number of containers permitted.

SECTION 16 MODIFY SECTION 14.07 ACCESSORY BUILDING PROVISIONS, TO UPDATE CARGO CONTAINER PROVISIONS

Section 14.07 ACCESSORY BUILDING PROVISIONS.

Accessory buildings, except as otherwise permitted in this Ordinance, shall be subject to the following regulations:

A. Residential accessory building or structures having two-hundred (200) square feet or less of internal floor area, which is used for any purpose other than the housing of humans, but is primarily to be use for the housing of non human purpose such as pets, yard equipment, yard maintenance supplies, tools, toys, including motorized or non motorized bicycles and types of household equipment, and which -structures do not have to meet the requirements of the Livingston County Construction Code and will not be built on a structural foundation as required in the Construction

Code for other types of buildings shall be excluded from the requirements of this ordinance except for the following .~~shall be excluded from the requirements of this Section and any required zoning permits and payment of fees required under other provisions of this Ordinance.~~ minimum standards:

1. The applicant shall obtain a zoning permit.
2. The structure shall be set back a minimum of 3 feet from all property lines.
3. The structure shall be set back a minimum of 5 feet from the principal building.

B. Detached accessory buildings and structures shall be located entirely in the rear yard outside of the side and rear setback with the following exceptions:

1. Said building or structure is being constructed pursuant to a Special Use Permit, and in that case, the Township Board after receiving the recommendation of the Planning Commission may authorize the location of the accessory building in any required yard.
2. For accessory buildings or structures to a residential use, if the primary residence is situated in the rear portion of a parcel over 2 acres, an accessory buildings or structure may be in the front yard if it:
 - a. Is setback at least 100 feet from the edge of the road right-of-way.
 - b. Meets the required side yard setback.
 - c. Is designed to be architecturally compatible with the principal building or structure, or screening that provides 80% opacity is provided between the buildings or structure and immediately adjacent neighboring properties and the road.
 - d. Has a roof overhang or eave of not less than twelve (12) inches on all sides, or alternatively with windowsills or roof drainage systems concentrating roof drainage at collection points along the sides of the building or structure.
 - e. In no instance shall an accessory building or structure be located within a dedicated easement right-of-way.

C. Accessory buildings located on lots and parcels in all Zoning Districts shall be subject to the following regulations:

LOT OR PARCEL AREA REGULATION	REGULATION	MAXIMUM SQUARE FOOTAGE*
12,000 sq. ft. to 0.9 acre	4% of lot area	800 sq. ft.
1 acre to 1.9 acres	4% of lot area	2000 sq. ft.
2 acres to under 19.9 acres	4% of lot area, except that commercial agricultural farm operations shall be excluded from this regulation	3000 sq ft.
20 acres and above	Subject to Max lot coverage	No limit

D. No detached accessory buildings or structures – shall be located closer than ten (10) feet to any main building.

E. No detached accessory building or structure in AR, SFR, MFR, NSC, OS Districts shall exceed one (1) story or twenty (20) feet in height. Accessory buildings or structures in all other districts may be constructed to equal the permitted maximum height in said districts. Height shall be measured in accordance with Article II Definition 24.

F. When accessory buildings or structures are located on a corner lot, they shall not be located in any front yard or side yard, unless it is determined by the Zoning Administrator that there is insufficient rear yard in which to locate them, in which case they may be permitted in the side yard so long as the following criteria are met:

1. Insufficient rear yard shall mean there are natural features such as steep slopes, wetlands or that the location of a well or septic field would preclude the placement of such accessory building or structure.
2. **Front Yard:** The accessory building or structure shall not encroach into the front yard
3. **Side Yard Setback:** The accessory building or structure shall not encroach into the required side yard setback.
4. **Height Limitation:** The height of the building or structure must not exceed 15 feet when located in the front or side yard.
5. **Sight Lines at Intersections:** The accessory building or structure must not fall within a 15-foot visibility triangle at the corner of the lot.

G. In no instance shall an accessory building or structure be allowed until there is a principal building or structure located on the lot or parcel of land.

H. No accessory building or structure shall be used as a dwelling, lodging or sleeping quarters for human beings, except as otherwise permitted in this Ordinance.

~~I. Additional standards for Cargo Containers to be used as an accessory building or structure to a residential use. Cargo Container standards.~~

~~1. Containers shall not be stacked above the height of a single container.~~

1. The exterior appearance of all cargo containers shall be maintained in a clean and structurally sound condition, free from any visible rust, corrosion, holes, or other signs of deterioration that could compromise the container's appearance or structural integrity.

~~3. No writing, advertising, or graphics are permitted on the exterior of the container.~~

2. Cargo containers shall be completely screened from view of abutting properties and/or rights-of-ways by a fence or vegetative screening that meets the requirements of Section 14.26 Fences and 28.03 Specific Landscaping Requirements for Zoning Districts.

3. Cargo containers shall be subject to the requirements for Intermodal Shipping Containers in the International Building Code.

4. No plumbing or electricity may be connected to a cargo container.

5. No livestock or pets may be housed in a cargo container.
6. Cargo containers shall not be used to store hazardous materials, as defined by the Michigan Fire Prevention Code, 1941 PA 107, MCL 29.1 *et seq.*
7. A cargo container shall not be permitted in the front yard.
- ~~11. No more than one cargo container is permitted per acre, with a maximum of two containers per parcel. This limit does not apply to containers located in the Agricultural Residential Zoning District when they are used in a manner consistent with Generally Accepted Management Practices under the Michigan Right to Farm Act.~~
8. Cargo containers to be used as accessory structures on a parcel that is not used or zoned for residential shall abide by accessory building regulations in 14.07.C.
9. Additional standards for Cargo Containers to be used as an accessory building or structure to a residential use.
 - i. Containers shall not be stacked above the height of a single container.
 - ii. No writing, advertising, or graphics are permitted on the exterior of the container.
 - iii. No more than one cargo container is permitted per acre, with a maximum of two containers per parcel. This limit does not apply to containers located in the Agricultural Residential Zoning District when they are used in a manner consistent with Generally Accepted Management Practices under the Michigan Right to Farm Act.



Carlisle | Wortman

ASSOCIATES, INC.

117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

TO: Howell Township Planning Commission

FROM: Paul Montagno, AICP, Principal and Grayson Moore, Planner

DATE: July 15, 2025

RE: Proposed Zoning Ordinance Amendments to Regulate Renewable Energy Facilities

Please find attached draft Zoning Ordinance Amendments intended to regulate Renewable Energy Facilities within the Township. This draft reflects modifications requested by the Planning Commission at its regular meeting on June 24, 2025.

The proposed ordinance applies to facilities below the State-determined nameplate capacity threshold. However, it may also be used voluntarily by developers of larger projects if they find the standards reasonable and wish to collaborate with the Township. As written, the ordinance would not qualify as a Compatible Renewable Energy Ordinance (CREO) under Public Act 233 of 2023, but it is intended to provide a workable framework for renewable energy development that aligns with local priorities.

The Township has identified this approach as a balanced means of facilitating renewable energy development without being unduly restrictive.

In response to prior discussion, we note that the 50% lot coverage limitation for ground-mounted accessory systems is based on guidance from the Michigan State University Extension and the University of Michigan's Graham Sustainability Institute. Their model ordinance encourages regulating such systems in proportion to the size of the primary building to ensure compatibility with neighborhood character while still supporting meaningful solar investment.

Please note the following changes:

- Section 16.15.B (Intent): revised for improved clarity regarding the requirements that follow.
- Noise regulation: amended to require measurement at the nearest property line rather than the nearest outer wall of the nearest dwelling.

Benjamin R. Carlisle, *President* John L. Enos, *Vice President* Douglas J. Lewan, *Principal*
 David Scurto, *Principal* Sally M. Elmiger, *Principal* R. Donald Wortman, *Principal* Craig Strong, *Principal*
 Paul Montagno, *Principal* Megan Masson-Minock, *Principal* Laura Kreps, *Principal*
 Richard K. Carlisle, *Past President/Senior Principal*

We look forward to discussing these proposed Zoning Ordinance amendments at your next Planning Commission meeting. The next step in the process would be to make a recommendation to the Township Board to approve the proposed ordinance as presented, approve the proposed ordinance with amendments, or deny the ordinance as proposed.

Sincerely,



CARLISLE/WORTMAN ASSOC., INC.
Paul Montagno, AICP
Principal



CARLISLE/WORTMAN ASSOC., INC.
Grayson Moore
Community Planner

Draft Renewable Energy Facilities Ordinance to Replace Sections 16.15 and 16.19

Sections 16.15 Renewable Energy Facilities

A. RENEWABLE ENERGY DEFINITIONS

- 1) *Abandonment*: Any renewable energy system or facility that is no longer producing power over a consecutive 12-month period of time.
- 2) *Accessory Solar Energy Systems*: A device, and/or components designed to generate renewable and store energy installed at individual residential or commercial locations which are incidental to the principle permitted use on a parcel of land. The use of such installation is exclusively for private purposes, and not for any commercial resale of any energy, except for the sale of surplus electrical energy back to the electrical grid. Examples include Building-Mounted Solar Energy Collectors and Ground-Mounted Solar Energy Collectors.
- 3) *Decommission*: To remove and/or retire a renewable energy system or facility from active service, including the restoration of the ground to its original condition.
- 4) *Facility Boundary*. The boundary around a parcel, multiple parcels, or portions thereof, leased or purchased for the purposes of operating a renewable energy facility.
- 5) *Nameplate Capacity*: The designed full-load sustained generating output of an energy facility. This is determined by reference to the sustained output of an energy facility even if components of the energy facility are located on different parcels, whether contiguous or noncontiguous.
- 6) *Nonparticipating Property*: A property that is adjacent to an energy facility and that is not a participating property.
- 7) *Occupied Community Building*: a school, place of worship, day-care facility, public library, community center, or other similar building that the applicant knows or reasonably should know is used on a regular basis as a gathering place for community members.
- 8) *Solar Array*: A collection of solar panels, wired together to generate electricity from the sun.

9) *Renewable Energy Facilities*: A facility where the principal design, purpose, or use is to provide renewable energy via wind, solar and/or storage to off-site uses or the wholesale or retail sale of generated electricity.

10) *Renewable Energy Systems*: A device, and/or components designed to generate renewable energy.

11) *Wind Energy Conversion System (WECS)*: Any device such as a turbine, windmill, or charger that converts wind energy to a usable form of energy.

B. INTENT. Renewable Energy Facilities may only be permitted in the Howell Township Renewable Energy Overlay District. The following regulations are intended to ensure the interests of the landowner, and the Township are achieved harmoniously with no negative effect to the long-term viability of the subject property or those surrounding it. In the Renewable Energy Overlay District where this special land use is permitted, facilities for the capture, storage, and distribution of renewable energy for commercial purposes **are subject to the requirements listed hereafter.**

C. SOLAR AND STORAGE FACILITIES

a. Setbacks. The solar and storage renewable energy facility setback requirements are found in the table below. All associated accessory equipment shall be subject to the same requirements. Setback requirements for all yards may be increased or decreased by the Planning Commission based upon the following considerations:

- The land use and zoning of adjacent properties, with particular attention to residential or other sensitive uses.
- The presence and effectiveness of screening measures such as landscaping, fencing, or natural buffers.
- Topographic conditions or existing vegetation that may reduce visual or noise impacts.
- The orientation and design of the facility, including panel direction and placement of accessory structures.
- Potential glare, noise, or other nuisance impacts on neighboring properties.

	Renewable Energy Overlay District		
Adjacent Properties	Residential Land Uses	Place of Worship or Public Institutional Land Uses	All Other Land Uses
Front Yard Setback (adjacent to right-of-way)	300ft from nearest dwelling unit or 100ft from property line whichever is greater	300ft from nearest dwelling unit or 100ft from property line whichever is greater	50ft from property line
Side Yard Setback	300ft from nearest dwelling unit or 100ft from property line whichever is greater	300ft from nearest dwelling unit or 100ft from property line whichever is greater	50ft from property line
Rear Yard Setback	300ft from nearest dwelling unit or 100ft from property line whichever is greater	300ft from nearest dwelling unit or 100ft from property line whichever is greater	50ft from property line

In instances where the renewable energy facility is comprised of multiple parcels, these setbacks shall apply to the exterior perimeter of all adjoining parcels. All setback distances are measured from the property line, or nearest point of a dwelling unit, to the closest point of the renewable energy system. Should the nearest component of the renewable energy system be a solar or photovoltaic array, the measurement shall be taken from the array at minimum tilt.

- b. Lot Coverage. The area of the renewable solar energy facility and any associated accessory structures shall not exceed 75% of the square footage of the entire site within the facility boundary. Impervious surfaces for the purpose of calculating lot coverage for renewable solar energy systems include, but are not limited to, mounting pads, footings, concrete, asphalt, or gravel driveways and walkways, and accessory structures.
- c. Height. The height of the renewable solar energy system and any mounts, buildings, accessory structures, and related equipment must not exceed twenty-five (25) feet when orientated at maximum tilt. Lightning rods may exceed twenty-five (25) feet in height, but they must be limited to the height necessary to protect the solar energy system from lightning and clearly shown in site plan proposals.

The height of the renewable storage energy system or any structure constructed to enclose the system shall not exceed thirty (30) feet.

- d. Screening. Screening is required around the entire facility boundary perimeter to obscure, to the greatest extent possible, the solar or storage renewable energy system from all adjacent properties. Screening standards set forth in Section 28.03.A. shall be applied to all solar and storage renewable energy facilities. Each owner, operator, or maintainer of solar or storage renewable energy facility to which this ordinance applies shall utilize good husbandry techniques with respect to said vegetation, including but not limited to, proper pruning, proper fertilizer, and proper mulching, so that the vegetation will reach maturity as soon as practical and will have maximum density in foliage. Dead or diseased vegetation shall be removed and must be replanted at the next appropriate planting time. An acceptable and reasonable long term landscape maintenance plan must be submitted prior to final approval. The Planning Commission may modify these requirements if it reasonably determines it necessary as it relates to proposed placement of renewable energy systems and adjacent land uses and/or zoning.
- e. Fencing. The facility boundary perimeter of a solar or storage renewable energy facility shall be completely enclosed by a lock gated perimeter fence at least eight (8) feet in height and in accordance with the other relevant Fencing and Protective Screening language of Section 14.26, 14.27, and 28.08 of the Township Zoning Ordinance. Additional fencing may be required for screening or security purposes in cases where the Planning Commission deems necessary. All fencing must comply with the latest version of the National Electrical Code.
- f. Glare. Solar renewable energy systems must be placed and oriented such that concentrated solar radiation and/or glare does not project onto roadways and nearby properties. Applicants have the burden of proving any glare produced does not cause annoyance, discomfort, or loss in visual performance and visibility. An analysis by a qualified professional third-party, mutually agreeable by both the Township and applicant, shall be required to determine if glare from the utility-scale solar energy system will be visible from nearby residents and roadways. The analysis shall consider the changing position of the sun throughout the day and year, and its influence on the solar renewable energy system.
- g. Drainage and Stormwater. Renewable solar and storage energy facilities shall not increase stormwater runoff onto adjacent properties. The application

shall include a drainage plan prepared by a registered civil engineer showing how stormwater runoff shall be managed and demonstrating that runoff from the site shall not cause undue flooding. Any necessary permits from outside agencies for off-site discharge shall be provided. It should also be reasonably demonstrated that maintenance procedures and products will not introduce chemicals or create detrimental impacts to the natural environment, groundwater, and wildlife.

- h. Noise. The solar energy facility shall not generate a maximum sound in excess of 55 average hourly decibels as modeled ~~at the nearest property line of nearest outer wall of the nearest dwelling located on~~ an adjacent nonparticipating property. Decibel modeling shall use the A-weighted scale as designed by the American National Standards Institute.
- i. Code Compliance. All renewable storage energy facilities, all dedicated use buildings, and all other buildings or structures that (1) contain or are otherwise associated with a renewable storage energy facility and (2) subject to the Building Code shall be designed, erected, and installed in accordance with all applicable provisions of the Building Code, all applicable state and federal regulations, and industry standards as referenced in the Building Code and the Howell Township Zoning Ordinance.

D. WIND ENERGY CONVERSION SYSTEM (WECS)

- a. Design Safety Certification. The safety of the design of all WECS structures shall comply with all current applicable State of Michigan guidelines and standards.
- b. Interference. All WECS structures shall be certified by the manufacturer to minimize or mitigate interference with existing electromagnetic communications, such as radio, telephone, microwave or television signals.
- c. Setbacks. The distance between a WECS and the nearest property line and/or nearest road right of way shall be at least two and one-tenth (2.1) times the blade tip height for occupied community buildings and residences on nonparticipating properties and one and one-half (1.5) times the blade tip height from residences and other structures on participating properties, nonparticipating property lines, the public right-of-way, and overhead communication and electric transmission (not including utility service lines to individual houses or outbuildings). No part of the WECS structure, including

guy wire anchors, may extend closer than ten (10) feet to the owner's property line.

All accessory equipment shall be at least one hundred (100) feet from the nearest property line. Setback requirements for all yards may be increased or decreased by the Planning Commission based upon impacts to existing land uses and/or zoning of adjacent properties.

- d. Shadow Flicker. Each wind tower is sited such that any occupied community building or nonparticipating residence will not experience more than 30 hours per year of shadow flicker under planned operating conditions as indicated by industry standard computer modeling.
- e. Height. Each wind tower blade tip does not exceed the height allowed under a Determination of No Hazard to Air Navigation by the Federal Aviation Administration under 14 CFR part 77.
- f. Lighting. The WECS is equipped with a functioning light-mitigating technology. To allow proper conspicuity of a wind turbine at night during construction, a turbine may be lit with temporary lighting until the permanent lighting configuration, including the light-mitigating technology, is implemented. The Planning Commission may grant a temporary exemption from the requirements of this subparagraph if installation of appropriate light-mitigating technology is not feasible. A request for a temporary exemption must be in writing and state all of the following:
 - i. The purpose of the exemption.
 - ii. The proposed length of the exemption.
 - iii. A description of the light-mitigating technologies submitted to the Federal Aviation Administration.
 - iv. The technical or economic reason a light-mitigating technology is not feasible.
 - v. Any other relevant information requested by the Planning Commission.
- g. Guy Wires. If an on-site WECS is supported by guy wires, the wires shall be clearly visible to a height of at least six (6) feet above the guy wire anchors.

- h. Fencing. Facilities shall be completely enclosed by a lock gated perimeter fence at least eight (8) feet in height and in accordance with the other relevant Fencing and Protective Screening language of Section 14.26, 14.27, and 28.08 of the Township Zoning Ordinance. Additional fencing may be required for screening or security purposes in cases where the Planning Commission deems necessary. All fencing must comply with the latest version of the National Electrical Code.
- i. Noise. WECS facility shall not generate a maximum sound in excess of 55 average hourly decibels as modeled at the nearest outer wall of the nearest dwelling located on an adjacent nonparticipating property. Decibel modeling shall use the A-weighted scale as designed by the American National Standards Institute.
- j. Color. Towers and blades shall be a non-reflective neutral color.
- k. Controls and Brakes. All commercial WECS structures shall be equipped with manual and automatic controls to limit rotation of blades to a speed below the designed limits of the WECS. The Professional Engineer must certify that the rotor and overspeed control design and fabrication conform to applicable design standards. No changes or alterations from certified design shall be permitted unless accompanied by a Professional Engineer's statement of certification.
- l. Compliance with FAA. It shall be the responsibility of the applicant to obtain the appropriate FAA permits for the WECS structure, or to obtain a determination of no significant impact to air navigation from the FAA.
- m. Climb Prevention. All commercial WECS structures must be protected by anti-climbing devices.
- n. Warning Signage. A visible warning sign of High Voltage is required to be placed at the base of all commercial WECS structures. Such signs shall also be located at all points of site ingress and egress.

E. STANDARDS FOR RENEWABLE ENERGY FACILITIES

- a. Abandonment, Removal, Repowering and/or Maintenance. If a renewable energy facility ceases to perform its intended function (generating electricity)

for more than 12 consecutive months, the operator shall remove all associated equipment and facilities no later than 90 days after the end of the 12-month period. Where the removal has not been lawfully completed as required above, and after at least 30 days' written notice, the Township may remove or secure the removal of the renewable energy facility and/or system or if due to abandonment and/or negligence to maintain, the Township shall have the right to enter the site for the reason of repowering the facility, in cases where repairs or replacements to the renewable energy system components are necessary, in order to properly maintain the system. The Township's actual cost and reasonable administrative charges to be covered by the operator's security bond. Charges may include the procurement of a contractor with the expertise to oversee and execute the entire set of repairs and/or maintenance to restore the site to its original capacity. Any costs incurred by the Township above and beyond the value of the security bond will be the responsibility of the operator.

- b. Decommissioning. The ground shall be restored to its original condition within 60 days of removal of structures. The restoration will include returning all soil within the facility to its original environmental state of which record must be taken prior to the commencement of construction. Acceptable ground covers include grasses, trees, crops, or other material demonstrated to be characteristic of the surrounding land. All above and below ground materials shall be removed when the renewable energy facility and/or system is decommissioned. All installed landscaping and greenbelts shall be permitted to remain on the site as well as any reusable infrastructure as determined by the Township. These can include service drives, utilities, etc.
- c. **Surety Guarantee**. A letter of credit, cash deposit, or other security instrument found acceptable to the Township Board shall be posted by the owner(s) and/or operator of the Utility-scale solar energy facility. Such surety shall be equal to one-hundred twenty five (125) percent of the total cost of decommissioning and/or reclamation based on an estimate that shall be presented by the applicant and evaluated and approved by the Township. The guarantee shall be increase by a minimum of 3% each year or equal to one-hundred twenty five (125) percent of a new estimate. The cost of decommissioning shall be re-reviewed and submitted to the Township annually to ensure adequate funds are allocated for decommissioning. The developer shall provide a new estimate at least every five (5) years to assess

whether the guarantee should be appropriately adjusted to reflect the current decommissioning cost.

- d. The applicant shall engage a certified professional engineer acceptable to the Township to estimate the total cost of decommissioning all structures in the facility in accordance with the requirements of this Ordinance, including reclamation to the original site conditions.
- e. A security bond, if utilized, shall be posted and maintained with a bonding company licensed in the State of Michigan or a Federal or State-chartered lending institution acceptable to the Township.
- f. Any bonding company or lending institution shall provide the Township with 90 days' notice of the expiration of the security bond. Lapse of a valid security bond is grounds for the actions defined below.
- g. If at any time during the operation of the renewable energy facility, prior to, during, or after the sale or transfer of ownership and/or operation of the facility the security instrument is not maintained, the Township may take any action permitted by law, to revoke the special land use, order a cessation of operations, and order removal of the structure and reclamation of the site.
- h. In the event of sale or transfer of ownership and/or operation of the renewable energy facility, the security instrument shall be maintained throughout the entirety of the process. The security instrument shall be maintained until decommissioning and removal has been completed to the satisfaction of the Township.
- i. Provision of Manufacturers' Safety Data Sheet(s). The applicant must submit manufacturer safety data sheets for all proposed equipment. If approval is granted, applicant must provide the Township with finalized manufacturer safety data sheets both to be kept on record with the Township and on-site in a clearly marked waterproof container. Applicants must provide updated manufacturer data sheets whenever equipment is modified so that all records are up to date. Documentation shall include the type and quantity of all materials used in the operation of all equipment.
- j. Fire Response. All electrical equipment associated with and necessary for the operations of the facility shall comply with all local and state codes. All design

and installation work shall comply with all applicable provisions of the National Electrical Code (NEC).

- k. The applicant shall provide training, at no cost to the Township, before, approximately halfway through and after construction for all emergency service departments serving the Township. Including all other requirements for permits, all three (3) trainings must have been completed to receive final zoning permits. Trainings upon the completion and during the operation of the renewable energy facility will be conducted upon the request of all emergency service departments but not exceed four (4) trainings per any given twelve (12) month period.
- l. The applicant shall provide a set of procedures and protocols for managing risk or fire and for responding in the event of an emergency at the facility. It will be the burden of the applicant to ensure said procedures and protocols provided to the various emergency service departments is the most up to date version.
- m. Special equipment that may be required to ensure the safety of fire and rescue personnel when responding to an emergency at the facility shall be provided at no cost to the Township prior to commencement of construction of the facility. The authority to determine whether, and what type of, special equipment is needed shall be with the fire and/or rescue department(s) serving the Township.
- n. The applicant shall provide for and maintain reasonable means of access for emergency services. Lock boxes and keys shall be provided at locked entrances for emergency personnel access. If any adjoining properties are damaged as a result of ingress/egress to the facility, the applicant shall remedy all damages in full.
- o. Anticipated Construction Schedule. Applicant must provide an anticipated construction schedule which highlights when potentially hazardous materials will be brought on-site and installed.
- p. Permits. Applicant must coordinate with all applicable agencies for required permitting including but not limited to the Livingston County Road Commission and/or Michigan Department of Transportation (MDOT) Livingston County Drain Commission, Environmental Protection Agency

(EPA), Michigan Department of Environment, Great Lakes and Energy (EGLE), etc.

- q. Photographic Record. Applicant must submit a complete set of photos and video of the entire development area prior to construction. This will be used as historical documentation for the township to secure and refer to if/when decommissioning and redevelopment activities take place.
- r. Site Security. A security plan shall be submitted with the special land use application and site plan application for a renewable energy facility. Additional fees may be required to cover specialized reviews of these plans and or the Township's building official's inspection of the site. The security plan shall:
 - i. Show all points of secured access as well as the means for limiting access to authorized personnel only.
 - ii. Along with other signage requirements in this Ordinance and the Township Sign Ordinance, install and maintain warning signage on all dangerous equipment and facility entrances.
 - iii. Provide a schedule outlining the implementation and maintenance of site security as well as routine inspections to ensure site security infrastructure is intact and operating as intended.
- s. Indemnity. Applicant will indemnify and hold the Township harmless from any costs or liability arising from the approval, installation, construction, maintenance, use, repair, or removal of the Utility-scale solar energy facility and/or system, which is subject to the Township's review and approval.
- t. Ownership Changes: If the owner of the Utility-scale solar energy facility changes or the owner of the property changes, the special use permit shall remain in effect, provided that the successor owner or operator assumes in writing all of the obligations of the special use permit, site plan approval, and decommissioning responsibilities. A new owner or operator of the Utility-scale solar energy facility shall notify the Township of such change in ownership or operator within 30 days of the ownership change. A new owner or operator must provide such notification to the Township in writing. The special use permit and all other local approvals for the Utility-scale solar energy facility may be determined by the Township Board at a public meeting to be void if a new owner or operator fails to provide written notification to the Township in

the required timeframe, unless the new owner or operator provides a reasonable explanation for any delay. Reinstatement of a void special use permit will be subject to the same review and approval processes for new applications under this Ordinance.

F. RENEWABLE ENERGY FACILITIES SITE PLAN REQUIREMENTS. Applications for all renewable energy facilities must be accompanied by detailed site plans, drawn to scale and dimensioned and certified by a registered engineer licensed in the State of Michigan. All site plans shall conform to the requirements listed in Article XX. In addition they shall display the following information:

- a. Horizontal and vertical to scale drawings (elevations) with dimensions that show the location of the proposed solar array(s), wind turbines and energy storage facilities, buildings, structures, electrical tie lines and transmission lines, security fencing and all above ground structures and utilities on the property.
- b. Location of all existing and proposed overhead and underground electrical transmission or distribution lines within the renewable energy facility and within one hundred (100) feet of all facility boundary property lines. Use of above-ground lines shall be kept to a minimum.
- c. Planned security measures to prevent unauthorized trespass and access during the construction, operation, removal, maintenance or repair of the renewable energy facility. In no instance shall barbwire be used.
- d. A written description of the maintenance program to be used for the renewable energy facility, including decommissioning and removal. The description shall include maintenance schedules, types of maintenance to be performed, and decommissioning and removal procedures and schedules if the renewable energy facility is decommissioned. Description should include the average useful life of all primary renewable energy system equipment and components being proposed.
- e. Additional detail(s) and information as required by the Planning Commission and/or Township Board.

G. RENEWABLE ENERGY FACILITIES REQUIRED STUDIES. All studies and analyses listed below may be required for renewable energy facilities as determined

appropriate by the Planning Commission based on the size, location, and potential impacts of the proposed project. The Commission may waive or modify these requirements if it determines that sufficient information is otherwise available or the study is not necessary to ensure public health, safety, and welfare.

- a. Stormwater Study. A stormwater plan prepared by a qualified professional shall be submitted in accordance with Part 31 of the Michigan Natural Resources and Environmental Protection Act (NREPA), and any applicable Township stormwater regulations. The analysis should address how site design, including layout, slope, and panel spacing, affects stormwater runoff and infiltration. Engineered stormwater solutions may be required where natural infiltration is not feasible.
- b. Wildlife Impact Analysis. For sites with potential sensitive habitat or wildlife concerns, the Planning Commission may require the applicant to provide a wildlife and habitat assessment. This assessment should include a review of known species and habitats using available data from the Michigan Department of Natural Resources and U.S. Fish and Wildlife Service. Where applicable, the applicant shall implement best management practices and comply with relevant State and Federal endangered species protection laws.
- c. Natural Feature Preservation Study. Applicants shall identify and preserve, to the extent feasible, significant natural features such as mature trees, wetlands, and natural grade. Tree clearing should be minimized, especially in setback areas. A tree inventory may be required for trees 6" DBH or greater if significant clearing is proposed.
- ~~d.~~ Environmental Impact Analysis. The applicant shall provide a summary identifying how the proposed facility complies with relevant parts of the Michigan Natural Resources and Environmental Protection Act (Act 451 of 1994), including but not limited to:
 - i. Michigan Natural Resources and Environmental Protection Act (Act 451 of 1994, MCL 324.101 et seq.) including but not limited to:
 - a. Part 31 Water Resources Protection (MCL seq.),
 - b. Part 91 Soil Erosion and Sedimentation Control (MCL 324.9101 et seq.),

- c. Part 301 Inland Lakes and Streams (MCL 324.30101 et seq.),
 - d. Part 303 Wetlands (MCL 324.30301 et seq.),
 - e. Part 323 Shoreland Protection and Management (MCL 324.32301 et seq.),
 - f. Part 325 Great Lakes Submerged Lands (MCL 324.32501 et seq.),
 - g. Part 353 Sand Dunes Protection and Management (MCL 324.35301 et seq.).
- ii. The Township may request documentation from relevant regulatory agencies to confirm compliance with required permits and standards.

H. ACCESSORY SOLAR ENERGY SYSTEMS

- a. Intent. Accessory Solar Energy Systems including all solar technologies and batteries for energy storage generated by the solar technologies are hereby permitted as accessory uses and subject to approval or a certificate of Zoning Compliance per Section 21.04 of this Ordinance. Typically installed at individual residential or commercial locations, use is exclusively for private purposes, and not for any commercial resale of any energy, except for the sale or credit of surplus electrical energy back to the electrical grid. Any accessory solar energy system shall be designed and size to provide for the energy needs of the principal use. The following requirements shall apply to all Accessory Solar Energy Systems for private use.
- b. Building-Mounted Solar Energy Requirements. Any building-mounted solar energy system shall be a permitted accessory use by right in all zoning districts, subject to the following requirements:
 - i. Solar energy systems that are mounted on the roof of a building shall not project more than the highest point on the roof. Additionally, they are not to exceed the maximum building height limitation for the zoning district in which it is located and shall not project beyond the eaves of the roof.
 - ii. Solar energy systems that are wall-mounted shall not exceed the height of the building wall to which they are attached.

- iii. Solar energy systems that are mounted on the roof or on a wall of a building, shall not be angled in such a way that glare from the surface is directed at a neighboring residential structure.
 - iv. The design of accessory solar energy system, and the installation and use thereof, shall conform to the State Construction Code and all other applicable building, electrical, and fire codes.
- c. Ground-Mounted Solar Energy System Requirements. A ground-mounted solar energy system is considered an accessory structure and may be permitted as an accessory use by right in all zoning districts, subject to the following requirements:
 - i. Ground-mounted solar energy systems may be located in the rear yard and the side yard, but must meet the required side and rear yard setbacks of the district in which they are located. Ground-mounted solar energy collectors may be located within the front yard if the following criteria are met:
 - a. The parcel is located in AR district.
 - b. The principal building is located at a minimum of 200% of the required front yard setback.
 - c. Ground-mounted solar energy systems shall meet the front yard setback.
 - d. Vegetative screening materials must meet the requirements of Section 28.04.
 - ii. Ground-mounted solar energy systems shall not exceed the height of fifteen (15) feet, measured from the ground at the base of such equipment at full tilt.
 - iii. The ground-mounted solar energy systems shall not be angled in such a way that glare from the surface is directed at a neighboring residential structure.
 - iv. The design of ground-mounted solar energy systems, and the installation and use thereof, shall conform to the State Construction Code and all other applicable building, electrical, and fire codes.

- v. The lot coverage area, as measured from edge to edge, at minimum tilt, horizontally with the ground, of the solar array shall not exceed 50% of the square footage of the primary building of the property and shall comply with the maximum ground floor coverage referred to in Section 3.17.



PLANNING & ZONING FOR SOLAR ENERGY SYSTEMS

A GUIDE FOR MICHIGAN LOCAL GOVERNMENTS



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Cover image: Ground-mounted SES with pollinator garden. Photo by Rob Davis.

BACKGROUND & PURPOSE



Lapeer Solar Park. Photo by Bradley Neumann.

Michigan's diverse energy future is set in motion. Utility companies have bold plans to expand solar options and other forms of renewable energy over the next two decades and beyond. By 2040, DTE Energy¹ expects to have over 10 million solar panels generating power for its customers. Consumers Energy also announced² plans to build roughly 8,000MW of solar energy by 2040. Regional electric cooperatives and municipally owned utilities are following suit, with plans to expand solar energy production. Michigan has 65 utilities across two peninsulas.

The shift in the utility sector from centralized power generation (e.g., a large coal plant) to a higher number of accessory and principal use solar energy systems (SES³) means Michigan communities should plan for renewable energy development within their

jurisdictions. According to a 2019 study of solar ordinances in Michigan, fewer than 20% of Michigan communities have zoning regulations in place to address all scales of SES.⁴ These scales are defined further in Section 3 of this guide.

The purpose of this guide is to help Michigan communities meet the challenge of becoming solar-ready by addressing SES within their planning policies and zoning regulations. This document illustrates how various scales and configurations of photovoltaic SES fit into landscape patterns ranging between rural, suburban, and urban.

1 Our Bold Goal for Michigan's Clean Energy Future. DTE. (2020). <https://dtecleanenergy.com/>

2 Consumers Energy. Consumers Energy Announces Plan to End Coal Use by 2025; Lead Michigan's Clean Energy Transformation. (2021). <https://www.consumersenergy.com/news-releases/news-release-details/2021/06/23/consumers-energy-announces-plan-to-end-coal-use-by-2025-lead-michigans-clean-energy-transformation>

3 Michigan Office of Climate and Energy. (2019). Michigan Zoning Database. Available at https://www.michigan.gov/climateandenergy/0,4580,7-364-85453_85458-519951--,00.html

4 Ibid.

Planning and Zoning for Solar Energy Systems: A Guide for Local Governments in Michigan was developed by experts within Michigan State University Extension (MSUE) and Michigan State University's School of Planning, Design and Construction in partnership with faculty at the University of Michigan Graham Sustainability Institute. Further review of this document was completed by content experts from local units of government, legal counsel, energy-related non-profits, utility experts, and members of academia. Its intent is to help Michigan communities make public policy decisions related to solar energy development.

This guide is written for use by local planners, officials, legal counsel, and policymakers within the State of Michigan. It first presents the current context for solar in Michigan, describes the various components and configurations of SES, and provides principles for how SES might fit within various land-use patterns across the state. Then, starting on Page 22, the guide presents sample language for including SES into a community's zoning ordinance. The findings and recommendations in this document are based on

university peer-reviewed research (whenever available and conclusive) and on the parameters of Michigan law as it relates to the topic(s) in Michigan. The zoning and regulatory rules and concepts discussed here may not apply in other states. This guide will be updated as solar technology evolves and as we learn more from the deployment of existing technology.

Preparing a zoning ordinance and master plan are only two aspects of being solar-ready. More information on how communities can plan for, regulate, and reduce barriers for SES—through meaningful public engagement, clarifying building/electrical permit processes, reducing permit fees, and evaluating placement of SES on or near municipal buildings, to name a few—is available through numerous Michigan agencies, universities, and organizations, and through the SolSmart⁵ program. Additional resources on solar energy (and renewable energy) planning and zoning in Michigan are available from MSU Extension⁶ and the Michigan Department of Environment, Great Lakes, and Energy⁷ in partnership with University of Michigan Graham Sustainability Institute⁸ faculty.



Ground-mounted SES, Grand Traverse waterfront. Photo by Mary Reilly.

5 SolSmart. (2021). Program Guide. Available at: <https://solsmart.org/resources/solmart-program-guide/>

6 MSU Extension Outreach. Michigan State University. <https://www.canr.msu.edu/outreach/>

7 Community Energy Management. Office of Climate and Energy. https://www.michigan.gov/climateandenergy/0,4580,7-364-85453_98214---,00.html

8 Graham Sustainability Institute. University of Michigan. <http://graham.umich.edu/>

SOLAR ENERGY IN MICHIGAN



O'Shea Solar Park, Detroit. Photo by DTE Energy.

While the solar resources in Michigan and other Midwestern states are not as abundant as in the Southwest,⁹ over the course of one year, a solar panel in a typical Michigan location produces approximately 70% of the energy as the same solar panel in Phoenix, Arizona.¹⁰ Furthermore, technology advancements have led to rapid cost reductions at all levels of solar development, making solar an increasingly cost-competitive option, both nationally and in Michigan specifically.¹¹ As a result, utility companies in Michigan have plans to significantly increase the amount of power generated from solar energy. This shift is evidenced by the amount of utility-scale solar energy development currently under construction or in the development queue,¹² along with expanding installations of smaller on-site solar energy systems.¹³

As the demand for clean energy sources continues to grow, Michigan communities are being approached with development proposals for new SES. It is vital that communities have planning and zoning in place to address these proposals. By doing so, communities have the opportunity to proactively determine how SES can fit into their landscape through master planning and zoning ordinance development.

MASTER PLANNING AND ZONING

Solar energy systems can serve as a method to help reach several different goals that a community may identify, including those focused on resiliency, economic development, farmland preservation, climate action, energy generation, and more.

A community's master plan sets the vision and high-level goals for the community. Local policy related to renewable energy generation is established first in the master plan, with an explanation of how SES could fit into the unique landscapes and character of the jurisdiction. In addition to the master plan, goals related to SES are established in other local plans, which could include district or sub-area plans, resiliency plans, climate action plans, or renewable energy plans. Here, specific geographical areas are designated as ideal for SES development. Including SES in local plans supports the establishment of related zoning regulations, consistent with the requirement of the Michigan Zoning Enabling Act (MZEa).¹⁴ A community-supported vision, followed by the adoption of reasonable zoning standards, together establish a successful framework for SES in a community.

9 Solar Resource Data, Tools, and Maps. National Renewable Energy Laboratory. <https://www.nrel.gov/gis/solar.html>.

10 Solar Resource Data. NREL PVWatts Calculator. Available at: <https://pvwatts.nrel.gov/pvwatts.php>.

11 Lazard. (2020). Levelized Cost of Energy and Levelized Cost of Storage – 2020. Available at: <https://www.lazard.com/perspective/levelized-cost-of-energy-and-levelized-cost-of-storage-2020/>; Solar Technology Cost Analysis. NREL. <https://www.nrel.gov/solar/solar-cost-analysis.html>.

12 Midcontinent Independent System Operator, Inc. https://www.misoenergy.org/planning/generator-interconnection/GI_Queue/.

13 MPSC. (2020). Distributed Generation Program Report for Calendar Year 2019. https://www.michigan.gov/documents/mpsc/DG_and_LNM_Report_Calendar_Year_2019_711217_7.pdf

14 Michigan Zoning Enabling Act, Public Act (PA) 110 of 2006, as amended. <http://legislature.mi.gov/doc.aspx?mcl-Act-110-of-2006>.

Incorporating renewable energy into the master plan is a logical place to start before drafting zoning regulations. The MZEA requires that all zoning be based on a plan. The master plan therefore establishes the community's formal policy position on solar energy development. For example, the master plan might set a goal that permits accessory SES throughout the jurisdiction. For principal-use SES, it might define what scale is appropriate as a permitted use (i.e., use by right) or determine appropriateness based on the location of marginal lands, soil types, or steep slopes. It could document community attributes or characteristics that are important to consider and/or protect when siting solar energy development. A master plan ideally includes a spatial analysis of land-use suitability and incorporates community engagement to establish formal guidance for the zoning regulations.



Accessory ground-mounted SES powering remote meteorological and communications equipment. Photo by Bradley Neumann.

COMMENTARY: A request for solar energy development may land on the doorstep of a community that has no mention of solar in the zoning ordinance or master plan. While neither ideal nor recommended, communities sometimes zone first and plan second.¹⁵ Amending the zoning ordinance first without planning for solar is a relatively common course of action, especially when there is a sense of urgency to the permit request. If a community cannot avoid amending the zoning ordinance without first amending the plan, they should work closely with a qualified planner or municipal attorney to perform a master plan review in order to find elements that support or contradict a solar energy zoning amendment. Master plan elements to consider in this review:

- **Vision statement:** How do these broad community statements align with or contradict the contemplated ordinance amendment? Does the vision include renewable energy?
- **Goals and objectives:** If the solar amendment includes multiple scales of SES, then review the goals, objectives, and policies for all relevant land-use classifications on the future land-use map, such as agricultural, residential, commercial, forestry, industrial, etc.
- **Brownfields or grayfields:** Review plans, policies, and maps for recommended zoning approaches.
- **Future land-use map:** Review the map for projected areas of growth (infrastructure extension, type of growth or change in land-use) or areas with goals, objectives, and policies to preserve or maintain a unique community asset.
- **Zoning plan:** While not required as a precursor to a zoning amendment, a statement in the zoning plan¹⁶ affirming the preferred scope and/or location of SES relative to other land-use classifications and zoning districts may be sufficient to show the community anticipated the solar zoning amendment but had not yet taken action to amend the ordinance. [End of commentary]

¹⁵ All zoning must be based on a plan. MCL 125.3203(1). <http://legislature.mi.gov/doc.aspx?mcl-125-3203>

¹⁶ Michigan Planning Enabling Act, MCL 125.3833 (2.d)

After a community has incorporated solar development into its master plan, the zoning ordinance can be amended to include regulations for the various configurations and scales of SES. The zoning regulations protect the community's health, safety, and welfare, and are based on policies outlined in the master plan. Zoning regulations define the location, scale, and form or configuration of SES allowed in the community and establish the permits and processes by which solar energy is allowed and even incentivized.

COMMENTARY: According to a review of Michigan zoning ordinances,¹⁷ large-scale solar energy systems (see Section 3) tend to be allowed as principal land uses of property and authorized by special land-use permit in certain zoning districts within a community. Accessory structures, where the electricity generated is used by the principal land use on the property, are generally allowed in more or all zoning districts as accessory uses by right. Furthermore, roof-mounted systems are generally permitted in more zoning districts within a community than ground-mounted systems. In fact, it is quite common to see roof-mounted systems allowed in all zoning districts.

Some communities also permit ground-mounted systems in all districts, though this is less frequently the case than with roof-mounted systems. More specifically, ground-mounted systems tend to be allowed in lower-density districts where there is likely to be larger parcels with larger yards that can accommodate the accessory structure on-site. [End of commentary]

PUBLIC ACT 116—FARMLAND DEVELOPMENT RIGHTS PROGRAM

The Michigan Department of Agriculture and Rural Development (MDARD) administers the Michigan Farmland and Open Space Preservation Program, which includes the Farmland Development Rights Program, commonly referred to as PA 116 (Public Act 116 of 1974). The PA 116 program allows a landowner to voluntarily enter into an agreement with the State to retain their land in agriculture in exchange for certain tax benefits and exemptions from various special assessments.

Prior to 2019, principal-use solar was not permitted on land enrolled in the PA 116 Farmland Preservation Program. The policy has since changed to allow landowners to put their PA 116 agreements on hold to pursue solar development if specified conditions are met.¹⁸ For example, among the conditions in PA 116 are those that require the developer to maintain existing field tile, plant a cover crop that includes pollinator habitat, and post a surety bond or letter of credit with the state to ensure that solar panels will be removed, and the land will be returned to a condition that enables farming at the end of the project life. This allows farmers to take advantage of the economic opportunity presented by solar development while preserving the long-term viability of growing crops or raising livestock on that land. Under the terms of the Farmland Development Rights Agreement, it is the landowner's responsibility to work with the solar energy developer to ensure that all conditions associated with PA 116 are satisfied. Therefore, a landowner will need to address such conditions in the solar energy lease, easement, or other agreement with the developer. In some counties, as much as 80% of farmland is enrolled in PA 116.¹⁹ It is important for municipalities to understand the scope of PA 116 lands within their jurisdiction.

17 Derry, J., & Gilbert, E. (2020). Primary Research on Planning and Zoning for Solar Energy Systems in the State of Michigan. <https://www.canr.msu.edu/resources/primary-research-on-planning-zoning-for-solar-energy-systems-in-the-state-of-michigan>

18 The Farmland and Open Space Preservation Act, being PA 116 of 1974, now codified in Part 361 of the Natural Resources and Environmental Protection Act, PA 451 of 1994. <http://legislature.mi.gov/doc.aspx?mcl-451-1994-III-1-LAND-HABITATS-361>. Also see: https://www.michigan.gov/mdard/0,4610,7-125-1599_2558---,00.html

19 MDARD Farmland Preservation Program (PA116) Percentage of Farmland Enrolled by County. https://www.michigan.gov/documents/mdard/PA116_Enrollment_Map_531166_7.pdf



Rooftop SES, Petoskey, Michigan. Photo by Richard Neumann.

PRIVATE RESTRICTIONS

Private restrictions, such as homeowners' association (HOA) rules, deed restrictions, or architectural standards within a subdivision or condominium development, can limit the installation of SES regardless of local government plans and ordinances. Local governments can work with neighborhood associations, sharing sample rules that allow for SES on individual properties and attempting to align the goals of the association with existing local policy. An additional possibility would be to include a requirement in one's zoning ordinance that all new residential developments must allow rooftop solar as a permitted use in the development.

ZONING FEES AND ESCROW POLICY

The local resolution governing permit fees and review costs should be updated to include SES upon adoption of a zoning amendment regulating the use. The Michigan Zoning Enabling Act authorizes the legislative body to adopt reasonable fees for zoning permits.²⁰ The permit fee amount must be set by the legislative body to cover anticipated actual cost of the application review and not more.

To encourage the adoption of solar energy, some communities waive or reduce zoning fees for some types of systems. Within the SolSmart certification program, for example, communities can earn points toward certification by waiving or exempting fees for residential solar permit applications.

For large utility-scale SES, though, a community might consider using escrow funds deposited by the applicant to recover the expense of hiring outside reviewers, such as an attorney, engineer, or planning consultant. An escrow policy provides a mechanism for the community to anticipate the costs associated with reviewing a complex application. Prior to requiring escrow funds for a zoning application review, the legislative body must first adopt an escrow policy by resolution.^{21,22} Among other things, an escrow policy establishes administrative guidelines for spending, replenishing the escrow below a certain balance, and returning remaining funds.

20 Michigan Zoning Enabling Act, Act 110 of 2006, MCL 125.3406, <http://legislature.mi.gov/doc.aspx?mcl-125-3406>

21 *Forner v. Allendale Charter Twp.* Court: Michigan Court of Appeals, 2019 Mich. App. LEXIS 576, 2019 WL 1302094 (March 21, 2019, Decided), Unpublished Opinion No. 339072, <http://www.michbar.org/file/opinions/appeals/2019/032119/70094.pdf>

22 Charter Township Act, PA 359 of 1947. <http://legislature.mi.gov/doc.aspx?mcl-Act-359-of-1947>. Revised Statutes of 1846. <http://legislature.mi.gov/doc.aspx?mcl-R-S-1846-41-1-16>



Langeland Farms SES. Photo by M. Charles Gould.

OTHER PERMIT PROCESSES

The planning commission can serve in a coordinating role to ensure additional required permits are obtained before planning commission review and approval. For example, the application may include mitigation measures to minimize potential impacts on the natural environment, including but not limited to wetlands and other fragile ecosystems, historical sites, and cultural sites. In addition to local zoning permits, solar energy developments may require permits from other agencies, including:

- **Department of Environment, Great Lakes, and Energy (EGLE)** if the project affects waters of the state, such as wetlands, streams, or rivers.²³
- **U.S. Fish and Wildlife Service (USFWS)** for the Endangered Species Act or migratory flyways.²⁴
- **Federal Aviation Administration (FAA)** for projects on or within the vicinity of an airport to determine if any safety or navigational problems are present.²⁵
- **Municipal or County Soil Erosion Permitting Agency** if the project is one or more acres in size, or is within 500 feet of a lake or stream.²⁶
- **Tax Assessor** or zoning administrator for land division approval if leasing less than 40 acres or the equivalent for more than one year.²⁷
- **Building Department** for required building, electrical, and mechanical permits.²⁸
- **Local Airport Zoning**, for projects within 10-miles of a local airport.^{29,30}

23 Parts 301 and 303 of the Natural Resources and Environmental Protection Act, PA 451 of 1994. <http://legislature.mi.gov/doc.aspx?mcl-451-1994-III-1-INLAND-WATERS>

24 Federal laws administered by the USFWS: Endangered Species Act (ESA); Bald and Golden Eagle Protection Act (BGEPA); Fish and Wildlife Coordination Act (FWCA). See: <https://www.fws.gov/ecological-services/energy-development/laws-policies.html>

25 Part 77 (Airspace Review) of Title 14 of the Code of Federal Regulations. https://www.faa.gov/airports/environmental/policy_guidance/media/FAA-Airport-Solar-Guide-2018.pdf

26 Soil Erosion and Sedimentation Control. https://www.michigan.gov/egle/0,9429,7-135-3311_4113-8844--,00.html

27 Michigan Land Division Act, PA 288 of 1967, definition of 'Division' – MCL 560.102(d). <http://legislature.mi.gov/doc.aspx?mcl-560-102>

28 When a project is developed or owned by a private entity, local construction permits are required. If the project is owned by a regulated utility, then local building and electrical permits may not be required but projects are instead regulated by the Michigan Public Service Commission. See Stille-Derossett-Hale Single State Construction Code Act, PA 230 of 1972, MCL 125.1502a(1)(bb), <http://legislature.mi.gov/doc.aspx?mcl-125-1502a>; and 2015 Michigan Building Code, 1.105.2.3 Public Service Agencies, https://www.michigan.gov/lara/0,4601,7-154-89334_10575_17550-234789--,00.html

29 Airport Zoning Act, Act 23 of 1950. <http://www.legislature.mi.gov/documents/mcl/pdf/mcl-act-23-of-1950-ex-sess-.pdf>

30 Michigan Zoning Enabling Act, Act 110 of 2006, MCL 125.3203, <http://legislature.mi.gov/doc.aspx?mcl-125-3203>

SCALES & COMPONENTS



Ground-mounted monopole SES. Photo by Bradley Neumann.

This section discusses SES across a range of sizes, scales, configurations, and related components. SES cannot be treated uniformly by local governments because the scale of installations and energy generation capacity can vary dramatically. For example, a small solar panel powering a streetlight might be exempt from regulation, while a large-scale photovoltaic SES, providing power to the grid through a system of components, likely would require rigorous local review.

TYPES

Solar energy generation for distribution to the grid is a unique land use, at both the large and small scale. As such, these developments should be clearly defined as a separate land use within a zoning ordinance. Treating all scales of SES the same may unnecessarily restrict accessory and small scale installations. In addition, solar developments are scalable and can be sited across many zoning districts. Therefore, in zoning ordinances, SES should be expressly defined

as distinct land uses at the different system scales that the community desires (e.g. accessory use vs. principal use, small SES vs. large SES, ground-mounted SES vs. roof-mounted SES, etc.).

The first distinction to consider for SES is accessory use versus principal use.

Accessory: These SES are accessory to the primary use of a property, such as a residence or a commercial building, and provide electricity that is intended for use by a primary structure located on the same parcel as the SES. Accessory systems can range in size and configuration. They typically range from being small enough to power an exterior light fixture to being large enough to power electricity for multiple buildings, for instance livestock or equipment barns. On-site (or distributed-generation) systems can be affixed to the roof of a building or can be freestanding, ground-mounted structures.

Principal: Principal-use SES developments generate electricity distributed off-site through the grid and exported to a wholesale utility market. These projects occupy single or multiple large parcels of land and are typically the primary use on the site. These SES vary greatly in size, covering as little as an acre to thousands of acres. In addition, SES have two primary configurations: ground-mounted and roof-mounted.

Roof-Mounted: A roof-mounted SES has solar panels affixed to a racking system on the roof of a building, which may be a residential, agricultural, institutional, commercial, or industrial building. Roof-mounted panels can be installed parallel to the roof surface, like a solar shingle, or protrude from the roof at an angle, like an awning. A roof-mounted SES typically has fixed mounts that do not rotate throughout the day to track the sun. By definition, roof-mounted systems are accessory structures relative to the principal use of the building.

Ground-Mounted: A ground-mounted SES has solar panels affixed to a racking system on support posts. These posts are most commonly driven into the ground, without requiring excavation for a concrete foundation. However, in cases where the soil cannot be penetrated, such as with a brown-field or capped landfill, ground-mounted SES can also be designed with ballasted supports that sit atop the ground. A ground-mounted SES may be fixed (i.e., stationary) or have single- or double-axis trackers to follow the sun throughout the day. While nearly all principal-use SES are ground-mounted, some accessory SES may be ground-mounted, too. For example, solar parking canopies are becoming more common in Michigan and present unique characteristics as compared to a typical ground-mounted SES.

These characteristics include unique panel height, vehicle support-post collision mitigation, lighting, and site configurations. Ground-mounted SES can also be distinguished by scale, which we define in this guide to be ‘large’ or ‘small’.

SCALES

As mentioned, even principal-use SES can vary greatly in size, covering as little as an acre to thousands of acres. Because of this variation in the size and impact on a site, many communities may choose to distinguish between small and large principal-use SES in their ordinances. To be sure, there is no established definition of “small” or “large,” and for other industry or taxation purposes, large- and small-scale distinctions may differ.

In assisting a community in making a distinction between scales of SES based on size, Table 1 (below) illustrates common SES outputs measured in megawatts (MW) of direct current (DC)³¹ and the average acreage of land required to host an SES of that output.³² Larger projects have a higher variability in land required per megawatt (5-10 acres per MW DC)³³, depending on how many parcels are involved and the layout of solar panels within them.

Table 1. Comparison Chart: Megawatt Outputs to Acreage Needed

Megawatts (DC)	Acres
1 MW*	5-10
2 MW	10-20
20 MW	100-200
100 MW	500-1,000
200 MW	1,000-2,000

*The current national average (through 2018) number of homes powered by 1 MW of solar is 190. Since SEIA began calculating this number in 2012 it has ranged from 150 - 210 homes/MW.³⁴

- 31 Solar output can also be measured in alternating current (AC), often for taxation or regulatory policies. An SES will have a higher MW DC rating than MW AC rating since there are some losses when inverting power from DC to AC to connect to the grid.
- 32 Ong, S., Campbell, C., Denholm, P., Margolis, R., and Heath, G. 2013. Land-Use Requirements for Solar Power Plants in the United States. National Renewable Energy Laboratory, Technical Report NREL/TP-6A20-56290. Table ES-1, Page v. Source: <https://www.nrel.gov/docs/fy13osti/56290.pdf>. Retrieved August 27, 2021.
- 33 Solar Energy Industries Association (SEIA). (2021). Siting, Permitting & Land Use for Utility-Scale Solar. <https://www.seia.org/initiatives/siting-permitting-land-use-utility-scale-solar>
- 34 SEIA. (2021). What's in a Megawatt? <https://www.seia.org/initiatives/whats-megawatt>



(Clockwise from top right) Ground-mounted SES with grazing (sheep) by Mary Reilly; park outbuilding, rooftop SES in winter, demonstration array, all by Bradley Neumann.

In this guide, the scale threshold between small and large principal-use SES is 2MW (or approximately 20 acres). Currently, there are dozens of SES projects of 2MW and less being developed in the state.³⁵ These have largely been well-received by local communities, suggesting they fit within the character of the landscapes in which they are proposed. Small systems 2MW or under (or 20 acres) could be permitted by right after an administrative site plan review (see discussion below). Each community, though, should

determine what the right demarcation of scale is between small and large principal-use SES given the community's context. In an urban environment, where parcels are smaller, the threshold to classify as a large principal-use SES may be smaller projects of fewer megawatts. In a community abundant with rural land or experience with expansive developments, a larger MW or acreage threshold for large projects may be more appropriate.

³⁵ Most of these small projects are sized so that they can be considered "qualifying facilities" under PURPA, a federal law enacted in 1978, intended to diversify electricity generation. Specific capacity (MW) thresholds to receive the "standard offer tariff" vary from utility to utility. The current standard offer capacity threshold and more about PURPA can be found on the Michigan Public Service Commission's website: https://www.michigan.gov/mpsc/0,9535,7-395-93309_93439_93463_93723_93730-406273--,00.html

COMMON SOLAR COMPONENTS

All SES require equipment to operate properly, although this equipment may differ based on the scale and configuration of the system. Besides the solar array panels/modules themselves, four common types of equipment are included with an SES: an inverter, a battery system (if in use), racking, and wiring. There are also other ‘balance of system’ components that may or may not be present: combiner boxes, disconnect switches, a weather station, performance monitoring equipment, and transformers.

Solar Panels: Photovoltaic solar panels convert light (photons) to electricity (voltage). The vast majority of today’s solar panels are made of silicon solar cells. An individual solar panel is typically assembled on racking to function with other panels as part of an array. Commercial solar panels are constructed with one or more anti-reflective coatings often made of magnesium fluoride (MgF₂). Anti-reflective coatings have been highly improved in the last 20-30 years to ensure that panels maximize how much light reaches the photovoltaic cells. Glare from modern solar panels is insignificant and local regulation, even adjacent to airports, is not always required.

Inverter: Inverters convert direct current (DC) electricity generated by photovoltaic modules into alternating current (AC) electricity that is compatible with batteries and the electrical grid.³⁶ Some inverters produce sound when in operation, which can often be managed with proper placement based on the sound pressure they produce. Communities may choose to adopt sound regulations to influence the placement and design of inverters within an SES.³⁷

Battery: Some homeowners or solar developers include batteries in their solar installations, allowing the solar energy to be stored and used at later times when it is needed (such as at night). These on-site batteries make solar energy more accessible and reliable as an electricity source, and are becoming increasingly common for all scales of SES as per-unit costs of batteries decline. Batteries can vary in size depending on the level of storage needed and may also vary in their location on the site. For accessory systems, the batteries may be within the residence itself.

Racking: As described above, SES may be ground- or roof-mounted. The frames, support posts, foundations (if required), and hardware used to secure solar panels and other SES equipment is often collectively referred to as “racking.”

Wiring: Solar panels are wired together to create an electrical circuit that allows current to flow through the component parts. Wiring extends beyond the panels to inverters, batteries, electronic devices, transformers, and/or distribution lines, depending on whether the SES generates electricity for use on-site or export to the electrical grid. Wiring between solar components may be underground.

Other components related to larger SES include transformers and substations for connecting to transmission lines that serve the electrical grid. Often solar developers connect to existing substations, but sometimes developers propose new or upgraded substations or transmission-line extensions as part of the SES. Transformers in substations increase voltage to higher levels for more efficient transmission over long distances. Transformers may produce low audible noise, so they may be subject to local government regulations applying to substations.

36 U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy. Solar Integration: Inverters and Grid Services Basics. <https://www.energy.gov/eere/solar/solar-integration-inverters-and-grid-services-basics>

37 Kaliski, K., I. Old, and E. Duncan. An overview of sound from commercial photovoltaic facilities. June 29-July 1. NOISE-CON 2020. <https://rsginc.com/wp-content/uploads/2021/04/Kaliski-et-al-2020-An-overview-of-sound-from-commercial-photovoltaic-facilities.pdf>

LAND-USE CONSIDERATIONS

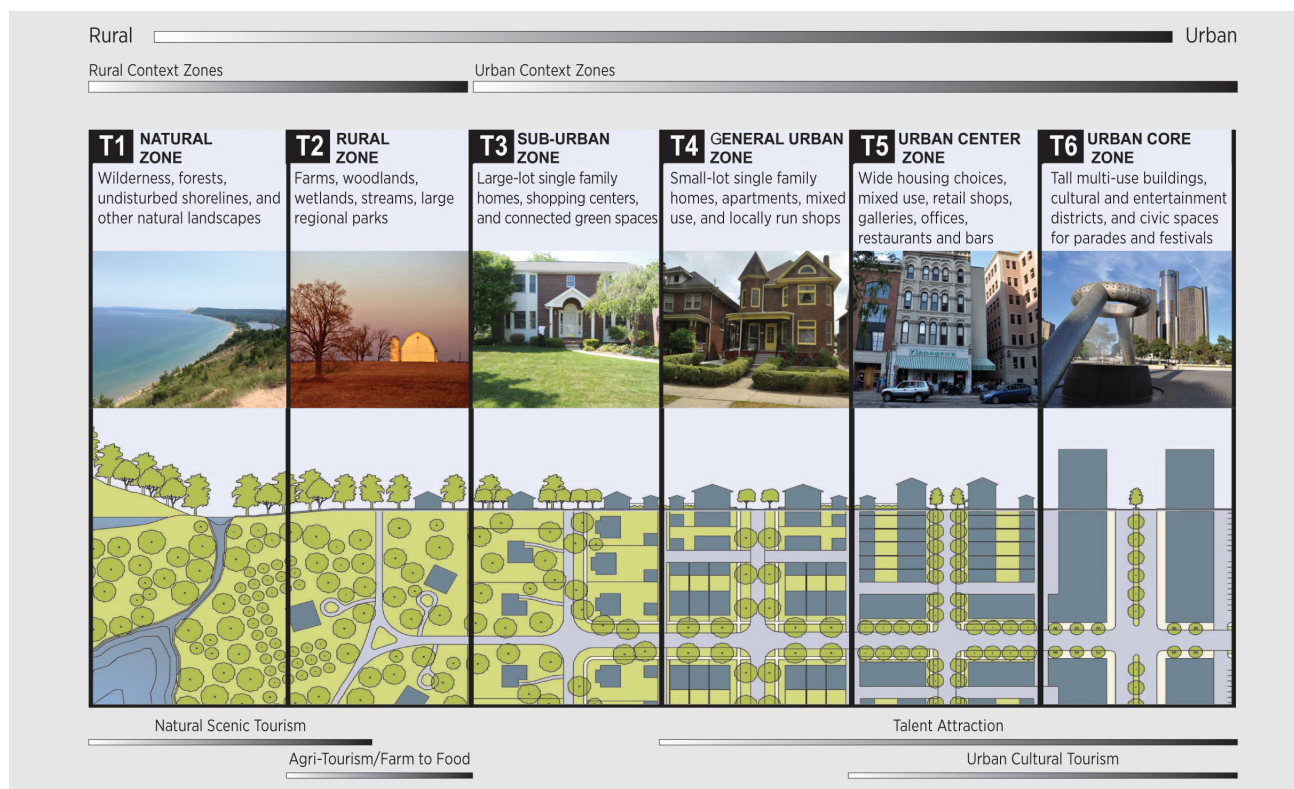


Fig 1. Rural-to-Urban Transect. Credit: DPZ CoDesign; MSU Extension

From left to right in **Figure 1**, above, the landscape shifts from a natural zone (T1), which can be wilderness, woodlands, wetlands, or other naturally occurring habitats, gradually transitioning in intensity-of-use to the urban core where we find our large urban centers. The remaining transect zones depicted in Figure 1 include rural farmland and open space areas (T2), suburban developments (T3) and general urban zones (T4, T5, T6), including traditional walkable neighborhoods and smaller historic downtowns. By taking a transect-based view of a community, policymakers can consider SES scales and configurations relative to the development pattern(s) in a community to determine the most appropriate regulation of SES by landscape type (vs. specific individual land use).

Solar energy systems (SES) can be of different scales and configurations within a community. As used in this document, the four basic scales of SES are roof-mounted, accessory ground-mounted, small principal-use, and large principal-use. Ultimately, the compatibility of an SES at a given site depends on its scale relative to the pattern and density of the surrounding physical and built environment. Zoning, as a local regulatory mechanism, can mitigate the impacts of SES if standards are appropriately tailored to the various development patterns of a community.

To better understand how SES can be integrated into existing development patterns in a community, it is

helpful to understand and apply the 'transect' to illuminate the multiple intersections of solar configurations and scales possible across a range of natural to urban landscapes. The Rural-to-Urban Transect, depicted in Figure 1, is an urban planning model that defines a series of zones that transition from natural and sparse rural farmhouses to the dense urban core of a large regional city.³⁸ In the figure, the dark gray boxes are built structures served by light gray roadways and surrounded by green natural open space or trees. There is an elevation or profile view across the top 'horizon' line of each transect and a plan or aerial view of the same landscape just below.

38 For more background on the Rural-to-Urban Transect, visit the Center for Applied Transect Studies website at: <https://transect.org/>.











Solar Energy System Type	Natural	Rural	Urban	General Urban
Accessory Roof Mounted				
Accessory Ground Mounted				
Principal Use (Small)				
Principal Use (Large)				

Fig 2. Examples of Solar Energy System Types across the Transect

Figure 2 provides a visual depiction of the type and scale of SES that exhibit predominant factors for compatibility in a given setting. For example, while it's not generally appropriate to develop a large or small principal use SES in a natural wilderness area (T1), it may be more appropriate to allow roof-mounted SES in that transect to serve park structures and accessory equipment within this landscape. Similarly, compatible siting of SES can occur in the suburban transect zone (T3) with a full range of SES types and scales, such as a roof-mounted system on a hotel, an accessory ground-mounted SES carport, or a large or small principal use system at an office park. Regardless of whether a community uses transect-based zoning terminology in the master plan or zoning ordinance, the transect framework is helpful in developing community goals related to the logical placement and installation of SES across varying landscapes of a community.

Table 2 – SES Scale and Type as applied to Example Zoning Districts

Example Zoning District:	Resource Production / Agricultural	Low-Density Residential	Commercial / Office	Industrial	Medium-Density Residential	Mixed Use
Roof-Mounted	P	P	P	P	P	P
Accessory Ground-Mounted	P	P	P	P	P	P
Principal Use (Small)	SPR	SLU	SPR	SPR	SLU	SPR
Principal Use (Large)	SLU	X	SLU	SLU	X	X

P = Permitted Use (zoning standards apply); SPR = Site Plan Review; SLU = Special Land Use; X = Not Permitted

Understanding that various types of SES can exist (or not exist) compatibly within natural, rural, suburban, and urban land-use transects, communities with conventional, use-based zoning ordinances will need to determine the SES type and scale that best fits in each zoning district. This determination must include the approval mechanisms by which the types of SES will be allowed. See Table 2 for one approach to applying SES types and scales across a range of six common zoning districts and the zoning approval processes that might be used. Table 2 suggests permitting processes for the four main SES types. For instance, roof-mounted and accessory ground-mounted systems are likely appropriate across the transect and can be allowed as a use by right in all zoning districts. Small principal-use SES are similarly permitted across the transect, but the approval process varies depending on the context. In zoning districts where there is concern about compatibility with existing land uses, a special land-use (SLU) permit issued after planning commission review provides the most protection for existing and adjacent land uses. However, small principal-use SES might also fit within certain zoning districts without much concern and therefore can also be permitted through site plan review (SPR) performed by the zoning administrator. Lastly, large principal-use SES are permitted by SLU in many, but not all, zoning districts due to compatibility concerns with existing land uses and development patterns. For instance,

it could be counter to the master plan and intent of the zoning district for a large principal-use SES to be sited in a walkable, mixed-use district. Each community, though, should tailor the SES type and scale to its own development patterns, transect zones, or zoning districts and assign the appropriate zoning approval process to each.

Overlay zoning is an optional approach to proactively establish the potential location of small or large principal-use SES.³⁹ Overlay zoning is often used to create a standard set of regulations to address unique needs of one type of land use by placing a second regulatory zoning district on top of the existing zoning map. This approach might be useful if the majority of the land in the community is under the same zoning designation (e.g., agricultural or ag-residential), and the community finds SES are appropriate in some, but not all, areas of that district. For example, the community may determine an SES overall to be most appropriate near existing electrical transmission lines or substations, or in sections of an ag-residential district without substantial residential development. In addition to defining the regulations for the overlay district within the zoning ordinance text, communities who opt to use overlay zoning to regulate SES should also proactively apply the overlay district to their zoning map. The boundaries of the overlay should be supported by the master plan with analysis of the solar resource, location of

39 American Planning Association. Property Topics and Concepts. <https://www.planning.org/divisions/planningandlaw/propertytopics.htm>

existing energy infrastructure, slopes, unique natural features, capabilities of the land/soil, current development patterns, and more.

COMMENTARY: Ethics and Conflict of Interest: Because large principal-use SES may cover hundreds of acres of land, it is not unusual for local elected officials or planning commission members' properties to be included in a project. The legislative body or planning commission may have existing rules or bylaws on what constitutes a conflict of interest for its members and how a conflict of interest is handled. Planning commissions are required to have bylaws with rules on handling conflict of interest.⁴⁰ If no such rules or bylaws are in place, they should be established and would apply to all matters before the board or commission. Involvement of the community's attorney that is experienced in municipal (planning and zoning) law is advised when a conflict of interest issue presents itself for one or more board members or planning commissioners. [End of commentary]

FARMLAND CONSIDERATIONS

When a large principal-use SES is proposed on agricultural land, there are sometimes concerns about whether the operation is a wise use of farmland and whether the land will be able to be farmed during or at the end of the solar project's life. While this question is rarely asked of other land uses in farming communities (for example, residential subdivisions are often allowed in agricultural districts and that land would not be readily farmed again), given the scale of solar projects on the horizon and that prime farmland and other important farmlands are a limited commodity,⁴¹ it is a reasonable concern.

There is nothing inherent in solar development that would make the land unfarmable: the panels and support posts can all be removed. Driving paths between arrays or concrete pads on which the inverters sit will result in soil compaction and should be mitigated upon decommissioning, but these tend to be relatively small percentages of land area for an SES. A bigger concern for returning a solar site to crop production is site design standards, such as the choice of stormwater management practices, the extent and type of landscaping, and the use of berms as a screening mechanism. Movement of topsoil or planting of trees may jeopardize the ability to farm the land in the future. The guidelines outlined in this sample ordinance and also presented in PA 116—to maintain the field tile and plant pollinator habitat—help ensure that the land can be farmed again the future.

Some local governments have proposed going even further, prohibiting solar energy development on particular classes of farmland. The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) uses eight categories to classify the suitability of soils to grow most kinds of field crops. In general, Class I through Class IV are suitable for cropland use while Class V through Class VIII are suitable for permanent vegetation (i.e., no tillage).⁴² However, if land is predominantly Class III or higher, it might be considered marginal farmland, and therefore could be considered less valuable for long-term agricultural use—raising fewer concerns about the appropriateness of solar energy development. In communities where prohibitions based on soil classification extend to other land uses (e.g., residential developments, golf courses, airstrips), this may be reasonable based on a master plan that includes farmland preservation goals and recommends farmland protection zoning techniques and other farmland preservation tools, such as Michigan's farmland purchase of development rights program. However, if soil classification-based prohibitions only apply to large principal-use SES, this approach may be vulnerable to legal challenges.

40 MCL125.3815. <http://legislature.mi.gov/doc.aspx?mcl-125-3815>. Also see MSU Extension Sample Bylaws for a Planning Commission: https://www.canr.msu.edu/resources/sample_1e_bylaws_for_a_planning_commission

41 Other farmland classifications to consider include: farmland of statewide importance, farmland of local importance, unique farmland, and prime farmland if drained. <https://websoilsurvey.sc.egov.usda.gov>

42 USDA NRCS. Land Capability Class, by State. 1997. https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/nra/?cid=nrcs143_014040

AGRICULTURE DUAL USE

“Dual use” is the integration of solar panels in an agricultural system in a way that enhances a productive, multifunctional landscape.⁴³ Dual use can take many forms in agricultural areas, and while there are numerous examples of successful co-located projects, it isn’t the default practice for every solar development, and may not always be possible or desired by property owners. Perhaps the most overt combination of solar and agriculture working together is through an “agrivoltaic” system that combines raising crops for food, fiber, or fuel, and generating electricity within the project area to maximize land use. Careful planning and evaluation is needed when designing the configuration of solar arrays for specialty crop production.

Grazing animals under and around solar arrays is another example of dual use. Grazing sheep is a practice that keeps land in active agricultural production and effectively manages vegetation.⁴⁴ A 2018 report from the David R. Atkinson Center for a Sustainable Future at Cornell University concluded that utilizing sheep for site vegetation management resulted in, “2.5 times fewer labor hours than mechanical and pesticide management on site.”⁴⁵ Tampa Electric reported a 75% cost savings over traditional mowing at its solar sites.⁴⁶ However, grazing sheep requires careful site design (to ensure that livestock is compatible with project infrastructure), as well as vegetation planning (so that the right forages are planted and the proper

rotational grazing system is implemented).^{47,48,49} Done successfully, solar grazing can support the livelihoods of veterinarians, feed suppliers, and other parts of the rural agriculture economy.

Agrivoltaics and grazing are not the only ways that SES can support agricultural landscapes and economies.⁵⁰ Another dual use is planting groundcover that is compatible with solar panels and provides a variety of other ecosystem services of value. Examples include planting vegetation that provides food sources for pollinators or selecting plant species that provide ecological services, such as carbon sequestration, increased soil health, habitat preservation, or water quality improvements.⁵¹ Though some existing solar projects may already provide stacked ecological services, research is just now underway to quantify some of these co-benefits. In the interim, SES systems that integrate plant species and practices compatible with conservation-cover standards should be treated as dual use, as they provide the ecological benefits of these farm management practices along with clean energy.

43 Low-Impact Solar Development Basics. Innovative Site Preparation and Impact Reductions on the Environment. <https://openet.org/wiki/InSPIRE/Basics>

44 Hartman, David. (2021). Sheep Grazing to Maintain Solar Energy Sites in Pennsylvania. Penn State Extension. <https://extension.psu.edu/sheep-grazing-to-maintain-solar-energy-sites-in-pennsylvania>

45 Kochendoerfer, N., Hain, L., and Thonney, M.L. (2018). The agricultural, economic and environmental potential of co-locating utility scale solar with grazing sheep. David R. Atkinson Center for a Sustainable Future, Cornell University. https://cpb-us-e1.wpmucdn.com/blogs.cornell.edu/dist/f/6685/files/2015/09/Atkinson-Center-report-2018_Final-22l3c5n.pdf

46 Utility Dive Does a Deep Dive on Solar Grazing. (2020). ASGA. <https://solargrazing.org/utility-dive-does-a-deep-dive-on-solar-grazing/>

47 Agricultural Integration Plan: Managed Sheep Grazing & Beekeeping. (2020). https://www.edf-re.com/wp-content/uploads/004C_Appendix-04-B.-Agricultural-Integration-Plan-and-Grazing-Plan.pdf

48 Cassida, K. and Kaatz, P. (2019). Recommended Hay and Pasture Forages for Michigan. Extension Bulletin E-3309. Michigan State University. <https://forage.msu.edu/wp-content/uploads/2019/11/E3309-RecommendedHayPastureForagesForMichigan-2019.pdf>

49 Undersander, D., Albert, B., Cosgrove, D., Johnson, D., and Peterson, P. (2002). Pastures for Profit: A Guide to Rotational Grazing. Extension bulletin A3529. University of Wisconsin-Extension and Minnesota Extension Service. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1097378.pdf

50 A Guide to Solar Energy in Vermont’s Working Landscape. (2020). The University of Vermont Extension. https://www.uvm.edu/sites/default/files/The-Center-for-Sustainable-Agriculture/resources/solar_energy_vt_working_landscape.pdf

51 Steinberger, K. (2021). Native Plant Installation and Maintenance for Solar Sites. The Nature Conservancy. <https://www.nature.org/content/dam/tnc/nature/en/documents/Native-Plant-Management-at-Solar-Sites.pdf>



Ground-mounted SES with grazing (sheep). Photo by M. Charles Gould.

COMMENTARY: As of January 1, 2021, the sheep and lamb inventory in Michigan was 87,000 head.⁵² Of that 87,000 head, 47,000 are ewes.⁵³ By 2024, there will be a total of 1,188 megawatt (MW) of solar online.⁵⁴ Assuming a principal-use SES requires eight acres per MW of generating capacity, 9,504 acres could potentially be grazed.⁵⁵ At a stocking rate of three mature ewes per acre, 28,512 ewes would be needed to manage the vegetation of all solar projects currently online or going online through 2024.⁵⁶ While there are more than enough ewes to service these solar projects, the sheep inventory in the state is at grazing equilibrium. Solar projects that are suitable for grazing could spur an increase in the sheep and lamb inventory in Michigan. Because ewes can have multiple lambs, the state's sheep industry has the capacity to expand to meet this demand. Furthermore, over half of the lamb and mutton supply is currently imported⁵⁷, and with the largest livestock harvesting facility east of the Mississippi in the Detroit area, there are opportunities to replace imported meat with the increased lamb and sheep inventory. [End of commentary]

- 52 U.S. Department of Agriculture. Sheep and Goat Inventory News Release [NR-21-07]. (February 2021). https://www.nass.usda.gov/Statistics_by_State/Michigan/Publications/Current_News_Release/2021/nr2107mi.pdf
- 53 USDA NASS Great Lakes Region. 2021. News Release: Sheep and Goat Inventory NR-21-07. Found at https://www.nass.usda.gov/Statistics_by_State/Michigan/Publications/Current_News_Release/2021/nr2107mi.pdf. Retrieved July 28, 2021.
- 54 Correspondence on March 5, 2021 with Julie Baldwin, Manager, Renewable Energy Section of the Michigan Public Service Commission.
- 55 SEIA. Siting, Permitting & Land Use for Utility-Scale Solar. <https://www.seia.org/initiatives/siting-permitting-land-use-utility-scale-solar>.
- 56 U.S. Department of Agriculture. Grazier's Math, With Apologies. <https://app.box.com/s/x9zv3yvili2w0l7xbh8lcl2cgn71meh6>
- 57 USDA Economic Research Service. <https://www.ers.usda.gov/topics/animal-products/sheep-lamb-mutton/sector-at-a-glance/>. Retrieved July 28, 2021.

SOLAR ON BROWNFIELDS AND GRAYFIELDS

A recommended practice is to use regulation to encourage the siting of SES on land that is difficult to develop or marginal for other uses. Examples of marginal land include brownfield sites, capped landfills, grayfield sites (previously developed property), and required safety buffer areas around industrial sites. On brownfields or capped landfills, solar development can allow productive use of land that might be compromised or have other development challenges. Solar arrays can be designed to avoid penetrating the ground and don't require as much remediation as other kinds of development. In a similar vein, development of solar on grayfield sites can provide an economic development opportunity for land that is otherwise disadvantaged from a redevelopment perspective.

While the use of marginal land for solar energy development is recommended, it is not a common practice, particularly among large SES, for a range of reasons.⁵⁸ One reason is that most of these marginal lands are smaller than the preferred 100+ acres for a more typical SES, and these smaller sites typically do not allow for achieving economies of scale. Even when solar developers are building a smaller-scale project, developing on a brownfield site may require using ballasted support structures (rather than driven posts), which can be more expensive, or may require a less-than-ideal panel layout. Communities wanting to attract solar development to marginal lands may need to reduce other costs or barriers to development, such as expediting review and permitting, providing land at low or no cost, decreasing required setbacks, or providing other incentives, including offering property tax incentives where that is allowed. While Michigan has seen modest development of solar on brownfields to date, other states (for example, Massachusetts and New York) are purposely targeting such development as a land-use and local economic development strategy.⁵⁹

CO-LOCATION WITH OTHER LAND USES

When evaluating how SES might fit into a community, one important consideration is how compatible an SES would be with the surrounding landscape and existing land use. Solar co-location is a signature concept for local regulation. The notion of co-location allows for solar energy production to be in parallel with another use.

For example, parking lots may be outfitted with solar carports as accessory structures (see extended commentary for some case studies). Other examples of co-location of SES include siting solar arrays at public school sites or other institutional grounds and in highway rights-of-way and the open space at airports. With the road network, an SES within a highway or freeway right-of-way might be deployed to power a specific piece of equipment, such as a sign, light, or meteorological station. Given their ample landholdings, airports may be ideally poised for solar installation, and have successfully installed SES as both ground-mounted and roof-mounted systems. The three primary issues regulated by the Federal Aviation Administration (FAA) are reflectivity and glare, radar interference, and the physical penetration of panels into airspace. Guidance provided by the FAA helps airport operators understand the considerations they should make in deploying solar, including when glare studies are required.⁶⁰



*Coldwater Solar Field Park.
Image courtesy of City of Coldwater, MI.*

58 Schaap, B., Dodinval, C., Husak, K., & Sertic, G. (2019). Reducing Barrier to Solar Development on Brownfields. Retrieved from: <http://graham.umich.edu/product/reducing-barriers-solar-development-brownfields>.

59 See: Solar Massachusetts Smart Target Program. <https://www.mass.gov/info-details/solar-massachusetts-renewable-target-smart-program> and NYSERDA Solar Guidebook for Local Governments.

60 Federal Aviation Administration. (2018). Technical Guidance for Evaluating Selected Solar Technologies on Airports. https://www.faa.gov/airports/environmental/policy_guidance/media/FAA-Airport-Solar-Guide-2018.pdf

COMMENTARY: The use of parking lots for co-location of solar energy systems is a growing trend around the country. These dual-use situations provide unique opportunities and challenges to local governments interested in encouraging their installation.

In many situations, regulations are silent on co-location opportunities. Communities sometimes struggle to identify the land-use regulations that should apply. The following examples, which come from three different underlying land uses, show how co-location opportunities can be encouraged on surface parking infrastructure for existing uses. These summaries are based on personal interviews related to MSU research.

Case Study—Michigan State University (MSU), East Lansing, MI | Michigan State University (49,000 students) has the largest solar carport development project in the state (2020). Over 5,000 parking spaces across five large commuter parking lots (34 acres total) are fitted with ground-mounted solar carports. These lots provide students, faculty, and visitors with covered space to leave their cars as they walk, bike, or use public transit to traverse the campus.

The project can generate up to 10MW—nearly 20% of total campus electricity generation. It is a key part of the university’s Energy Transition Plan, a process by which MSU reduces its dependency on fossil fuels and expands its renewable energy portfolio. According to MSU director of Planning, Design, and Construction John LeFevre, preserving green space was a large selling point for the project.

The solar carports advance land-use and energy goals by increasing the utility of existing developed sites with enough structural repetition to allow for an efficient solar-panel layout. This approach to SES development applies to universities, as well as to other larger commuter parking lots and developed grayfield sites present in many communities.

Case Study—USA Hauling & Recycling, East Windsor, CT | East Windsor, a town in northern Connecticut with 11,375 residents, is home to USA Hauling & Recycling, a local waste management firm. In 2018, the company requested and received permission to enact a site-plan change

for their industrial property, whereby they installed two solar carports of 25,000 and 45,000 square feet. They now operate their large compressors and recycling processes through 743kW of solar energy and protect their truck fleet with carport canopies.

The company received a prompt review from the town after amending their site plan, gaining final approval in just months. East Windsor town planner and consultant Mike D’Amato, AICP, CZEO, attributes the town’s efficient approval process to how they regulate carports—as a class of accessory structures. Within this framework, solar carports are permitted in all zoning districts that allow accessory structures. A key provision of carports is that they are exempt from setbacks and lot coverage. The net result is an abundance of community locations where solar carports are now permitted.

Case Study—Fairbanks Museum & Planetarium, St. Johnsbury, VT | St. Johnsbury is a town of 5,685 residents in northeastern Vermont, home to the Fairbanks Museum & Planetarium. The museum undertook an energy efficiency campaign in 2015, resulting in the installation of a 27.36kW solar car-port over an auxiliary parking lot, connected to underground batteries, in December of 2020. The project marks the end of their renewable energy transformation. According to museum director Adam Kane, energy costs have decreased from around \$15,000 per year in 2010 to \$0 in 2020.

Both Kane and St. Johnsbury zoning administrator Paul Berlejung make special mention of the town’s flexible solar regulations. There are no “restricted” or specifically permitted zoning districts in the town’s section on solar collectors. Instead, solar collectors are defined as accessory uses, with a few clearly defined provisions pertaining to setbacks, build heights, and burial of utility lines. Kane and Berlejung both noted that interactions between solar suppliers and the town are remarkably smooth, concluding that municipalities looking to incentivize solar carport construction should consider reducing the barriers to entry at the local level. [End of commentary]

SOLAR AND HISTORIC OR CULTURALLY SIGNIFICANT SITES

Solar panels can have a variety of impacts on character-defining features of historic or culturally significant structures or sites. Solar collectors can obscure character-defining features of a structure, or be incompatible with a structure's roofline, exterior color, and the texture or shape of building materials. Despite these potential impacts, many Michigan communities allow for and regulate SES in historic districts and on other significant sites. It is important to allow SES on historic sites and structures in a context-sensitive way, granting the use while preserving the integrity of site aspects deemed historic or culturally significant.

Newer photovoltaic systems, including building-integrated SES, may be appropriate on the street-facing side, even in historic districts. New technology such as solar shingles can be designed and mounted to match the shape, materials, and proportions of a structure. For ground-mounted SES at a historic or culturally significant site, placement of the SES should be context-sensitive with respect to significant areas of the property.

Communities with historic district ordinances should update their ordinance to address roof and ground-mounted SES. The cities of Grand Rapids, Ypsilanti, and Manchester are a few examples that provide for

regulations that address these issues. For state or federally designated historic structures, applicants should review the U.S. Secretary of the Interior's Standards for Rehabilitation.

DECOMMISSIONING AND REPOWERING

A question that commonly arises when communities are considering solar as a primary land use is what happens at the end of the solar project's life. Most solar panels are designed to operate for 25-40 years, so it is not uncommon for solar developers to have a lease or easement of roughly this length with a landowner. However, many landowner agreements include the option to extend, sometimes because there is still life left in the original panels and sometimes because the developer hopes to repower the project.

It's important to note the distinction between the two primary options at the end of a solar project's life: decommissioning and repowering. Decommissioning is the process of removing the equipment and other infrastructure associated with the project. While decommissioning is commonly a provision in a landowner's agreement with a solar developer, many communities also require review of a decommissioning plan that includes a financial commitment as part of the approval process. The decommissioning plan



Rooftop SES, Petoskey, Michigan. Photo by Richard Neumann.

details how the project equipment will be removed and the land restored when the contract for the SES expires, and the financial commitment guarantees there will be funding to implement the plan.

Before reaching the end of its useful life, sometimes a solar project is repowered. Repowering an SES involves refurbishing or replacing system components to allow the SES to continue operation. The expectation associated with repowering is that much of the original infrastructure (e.g., racking, access roads, wiring, etc.) may still have useful life and may be reused, even if other components have reached the end of their useful life.

COMMENTARY: Fundamentally, zoning approvals and permits are permanent and run with the land. A solar power project could be a temporary land use decommissioned at the end of the solar project's life, or it could be repowered through maintenance and installation of new technology. Generally, maintenance of real property is allowed within the terms of a zoning permit. What constitutes system maintenance versus work that triggers a new permit might vary from community to community. Advances in technology will certainly create circumstances in which the SES owner will be compelled to replace equipment in order to continue to efficiently produce electricity relative to project costs. Therefore, the zoning ordinance should specify if repowering triggers a review. A municipal attorney with experience in planning and zoning can help define a process to repower an SES to extend the life of the project. [End of commentary]

MICHIGAN EXAMPLE: Gaines Charter Township requires the following of a decommissioning plan:

"Decommissioning: A decommissioning plan signed by the responsible party and the landowner (if different) addressing the following shall be submitted prior to approval:

1. Defined conditions upon which decommissioning will be initiated (i.e. end of land lease, no power production for 12 months, abandonment, etc.)
 2. Removal of all non-utility owned equipment, conduit, structures, fencing, roads, solar panels, and foundations.
 3. Restoration of property to condition prior to development of the system.
 4. The timeframe for completion of decommissioning activities.
 5. Description of any agreement (e.g. lease) with landowner regarding decommissioning, if applicable.
 6. The entity or individual responsible for decommissioning.
 7. Plans for updating the decommissioning plan.
 8. A performance guarantee shall be posted in the form of a bond, letter of credit, cash, or other form acceptable to the township to ensure removal upon abandonment. As a part of the decommissioning plan, the responsible party shall provide at least two (2) cost estimates from qualified contractors for full removal of the equipment, foundations, and structures associated with the facility. These amounts will assist the township when setting the performance guarantee valid throughout the lifetime of the facility. Bonds and letters of credit shall be extended on a bi-annual basis from the date of special use permit approval."
- Gaines Charter Township Zoning Ordinance (Kent Co.), Section 4.18 [End of example]

SAMPLE ZONING FOR SOLAR ENERGY SYSTEMS

The proposed sample zoning language is meant to be a starting point for dialogue between officials, staff, and residents before or during a zoning amendment process related to SES. Communities can (and should) work with their municipal attorney and a knowledgeable planner to modify the proposed sample zoning language in this document to further refine and develop regulations that fit identified community goals and are tied to master plan objectives, upon which zoning must be based.⁶¹

DEFINITIONS

Add to the Definitions article of the ordinance the following terms and definitions, or modify existing related definitions for consistency. Not all ordinances will require all of the following terms. Municipalities should tailor definitions to terms used in their ordinance.

Accessory Ground-Mounted Solar Energy System: A ground-mounted solar energy system with the purpose primarily of generating electricity for the principal use on the site.

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

Dual Use: A solar energy system that employs one or more of the following land management and conservation practices throughout the project site:

- **Pollinator Habitat:** Solar sites designed to meet a score of 76 or more on the Michigan Pollinator Habitat Planning Scorecard for Solar Sites.⁶² Alternatively, the Tier 2 Pollinator Scorecard developed by the Rights-of-Way as Habitat Working Group can be used to evaluate pollinator habitat and management practices.
- **Conservation Cover:** Solar sites designed in consultation with conservation organizations that focus on restoring native plants, grasses, and prairie with the aim of protecting specific species (e.g., bird habitat) or providing specific ecosystem services (e.g., carbon sequestration, soil health).
- **Forage for Grazing:** Solar sites that incorporate rotational livestock grazing and forage production as part of an overall vegetative maintenance plan.
- **Agrivoltaics:** Solar sites that combine raising crops for food, fiber, or fuel, and generating electricity within the project area to maximize land use.

Ground-Mounted Solar Energy System: A solar energy system mounted on support posts, like a rack or pole, that are attached to or rest on the ground.

Maximum Tilt: The maximum angle of a solar array (i.e., most vertical position) for capturing solar radiation as compared to the horizon line.

Minimum Tilt: The minimal angle of a solar array (i.e., most horizontal position) for capturing solar radiation as compared to the horizon line.

⁶¹ MCL 125.3203(1) of the Michigan Zoning Enabling Act, PA 110 of 2006, as amended.

⁶² Michigan State University Department of Entomology. Michigan Pollinator Habitat Planning Scorecard for Solar Sites. https://www.canr.msu.edu/home_gardening/uploads/files/MSU_Solar_Pollinators_Scorecard_2018_October.pdf

Non-Participating Lot(s): One or more lots for which there is not a signed lease or easement for development of a principal-use SES associated with the applicant project.

Participating Lot(s): One or more lots under a signed lease or easement for development of a principal-use SES associated with the applicant project.

Photovoltaic (PV) System: A semiconductor material that generates electricity from sunlight.

Principal-Use Solar Energy System: A commercial, ground-mounted solar energy system that converts sunlight into electricity for the primary purpose of off-site use through the electrical grid or export to the wholesale market.

Principal-Use (Large) Solar Energy System: A Principal-Use SES generating more than ____ [e.g., 2] MW DC for the primary purpose of off-site use through the electrical grid or export to the wholesale market [see discussion in “Land-Use Considerations” on why this number is suggested, and why it might warrant tailoring to your community’s land-use typologies].

Principal-Use (Small) Solar Energy System: A Principal-Use SES generating up to and including ____ [e.g., 2] MW DC for the primary purpose of off-site use through the electrical grid or export to the wholesale market.

Repowering: Reconfiguring, renovating, or replacing an SES to maintain or increase the power rating of the SES within the existing project footprint.

Roof-Mounted Solar Energy System: A solar energy system mounted on racking that is attached to or ballasted on the roof of a building or structure.

Solar Array: A photovoltaic panel, solar thermal collector, or collection of panels or collectors in a solar energy system that collects solar radiation.

Solar Carport: A solar energy system of any size that is installed on a structure that is accessory to a parking area, and which may include electric vehicle supply equipment or energy storage facilities. Solar panels affixed on the roof of an existing carport structure are considered a Roof-Mounted SES.

Solar Energy System (SES): A photovoltaic system or solar thermal system for generating and/or storing electricity or heat, including all above and below ground equipment or components required for the system to operate properly and to be secured to a roof surface or the ground. This includes any necessary operations and maintenance building(s), but does not include any temporary construction offices, substation(s) or other transmission facilities between the SES and the point of interconnection to the electric grid.

Solar Thermal System: A system of equipment that converts sunlight into heat.

Weed: Native or non-native plant that is not valued in the place where it is growing.⁶³

Wildlife-Friendly Fencing: A fencing system with openings that allow wildlife to traverse over or through a fenced area.

⁶³ USDA NRCS. Native, Invasive, and Other Plant-Related Definitions. https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ct/technical/ecoscience/invasive/?cid=nrcs142p2_011124

GENERAL PROVISIONS

Add to the General Provisions article of the ordinance, as a separate section, the following provisions for Roof-Mounted SES, Accessory Ground-Mounted SES, and Building-Integrated SES as permitted by right in all districts and do not require a special use permit.

Roof-Mounted SES, Accessory Ground-Mounted SES, and Building-Integrated SES are permitted in all zoning districts where structures of any sort are allowed, and shall meet the following requirements:

A. ROOF-MOUNTED SES

1. **Height:** Roof-Mounted SES shall not exceed __ [e.g. 5-10] feet above the finished roof and are exempt from any rooftop equipment or mechanical system screening.
2. **Nonconformities:** A Roof-Mounted SES or Building-Integrated SES installed on a nonconforming building, structure, or use shall not be considered an expansion of the nonconformity.
3. **Application:** All SES applications must include __ plan [e.g., plot or site, whichever is required for a zoning compliance review]. Applications for Roof-Mounted SES must include horizontal and vertical elevation drawings that show the location and height of the SES on the building and dimensions of the SES.

MICHIGAN EXAMPLES:

"Solar Energy System: An aggregation of parts including any base, mounts, tower, solar collectors, and accessory equipment such as utility interconnections and solar storage batteries, etc., in such configuration as necessary to convert solar radiation into thermal, chemical or electrical energy."

– *Royal Oak Zoning Ordinance (Oakland Co.), Section 770-8*

"Solar Energy System (SES): A system consisting of a device or combination of devices, structures or parts thereof, that collect, transfer or transform solar radiant energy into thermal, chemical or electrical energy. An SES may be mounted on a roof (roof-mounted SES) or be supported by posts or other support structures extending into the ground (ground-mounted SES)."

– *Greater Thompsonville Area Zoning Ordinance (Benzie Co.), Section 18.23*

"Solar Energy System: A passive design using natural and architectural components to collect and store solar energy without using any external mechanical power or an active mechanical assembly that may include a solar collector, storage facility, and any other components needed to transform solar energy for thermal, chemical, or electrical energy. Examples include a solar greenhouse, solar panels, solar hot water heater, photovoltaic panels, passive solar panels, and a large, clear south-facing expanse of windows."

– *Bessemer Township Zoning Ordinance (Gogebic Co.), Section 15.22 [End of examples]*

COMMENTARY: Because of concerns over wind load, most roof-mounted systems are not the same dimensions as ground-mounted SES. Given current SES design considerations, 10 feet is sufficient to accommodate most roof-mounted systems.

If a zoning ordinance has height exceptions for other mechanical equipment, it might alternatively just include roof-mounted SES in this exception. In addition to listing this in the section of your ordinance with those exceptions, you could also use the following language in this section of the solar provisions:

A Roof-Mounted SES, other than building-integrated systems, shall be given an equivalent exception to height standards as building- or roof-mounted mechanical devices, chimneys, antennae, or similar equipment, as specified in Section ___ [height exceptions] of the ___ [municipality name] Zoning Ordinance. [End of commentary]



Ground-mounted SES feedlot. Photo by M.Charles Gould.

B. ACCESSORY GROUND-MOUNTED SES

1. **Height:** Ground-Mounted SES shall not exceed ___ [e.g. 20] feet measured from the ground to the top of the system when oriented at maximum tilt.

COMMENTARY: Height of a Ground-Mounted SES can vary from four to 15 feet, depending on how many rows of panels are installed and the maximum tilt height, if applicable. If the SES is co-located with an active agricultural operation, such as livestock grazing and crop production, it may need as much as eight feet of clearance, which can increase the overall height to up to roughly 20 feet. Similarly, a solar carport would need additional clearance to accommodate vehicle access. The carports at Michigan State University are 14'6" to accommodate snow removal and paving trucks. A relatively straightforward way to regulate the height of SES and account for this range of applications is to apply the same height standard as other accessory buildings or structures within the zoning district. [End of commentary]

2. **Setbacks:** A Ground-Mounted SES must be a minimum of ___ [e.g., 5] feet from the property line or ___ [e.g., ½] the required setback that would apply to accessory structures in the side or rear yard in the respective zoning district, whichever is greater. Setback distance is measured from the property line to the closest point of the SES at minimum tilt.
3. **Lot Coverage:** The area of the solar array shall not exceed ___ [e.g., 50] % of the square footage of the primary building of the property unless it is sited over required parking (i.e. solar carport), in which case there is no maximum lot coverage for the Ground-Mounted SES. A Ground-Mounted SES shall not count towards the maximum number or square footage of accessory structures allowed on site or maximum impervious surface area limits if the ground under the array is pervious.

4. **Visibility (Residential):** A Ground-Mounted SES in residential districts [list districts here] shall be located in the side or rear yard to minimize visual impacts from the public right-of-way(s).
 - a. Ground-Mounted SES may be placed in the front yard with administrative approval, where the applicant can demonstrate that placement of the SES in the rear or side yard will:
 - i. Decrease the efficiency of the SES due to topography, accessory structures, or vegetative shading from the subject lot or adjoining lots;
 - ii. Interfere with septic system, accessory structures, or accessory uses; or
 - iii. Require the SES to be placed on the waterfront side of the building housing the primary use [where applicable].

MICHIGAN EXAMPLES: Some communities apply screening standards to Accessory Ground-Mounted SES. Here is an example:

Ground Mounted SES shall be reasonably screened from the view of the surrounding streets and roads to the maximum extent practicable by garden walls, fences, hedges, landscaping, earth berms, or other means, except to the extent that such screening is either impracticable or would result in ineffective solar access on the lot in question. Ground Mounted SES that are visible from a road or adjacent properties shall, to the maximum extent feasible, and without compromising the ability to effectively use solar collectors on the lot in question, use materials, textures, screening, and landscaping that will screen the Ground Mounted SES from view, and blend with the natural setting, existing environment, and neighborhood character. All Ground Mounted SES that rely on landscaping or a vegetative buffer for screening shall maintain a minimum opacity of at least eighty percent (80%), and a mature height of not less than the greater of (x) six (6) feet or (y) sixty percent (60%) of the height of the Ground Mounted Solar Energy System when oriented to maximum tilt.

– Webster Township Zoning Ordinance (Washtenaw Co.), Section 12.110 [End of example]

5. **Exemptions:** A SES used to power a single device or specific piece of equipment such as a lawn ornament, lights, weather station, thermometer, clock, well pump or other similar singular device is exempt from Section ____ [Ground-Mounted SES provisions].
6. **Nonconformities:** A Ground-Mounted SES installed on a nonconforming lot or use shall not be considered an expansion of the nonconformity.
7. **Application:** All SES applications must include a ____ plan [e.g., plot or site, whichever is required for a zoning compliance review]. Applications for Ground-Mounted SES must include drawings that show the location of the system on the property, height, tilt features (if applicable), the primary structure, accessory structures, and setbacks to property lines. Accessory use applications that meet the ordinance requirements shall be granted administrative approval.



Off-grid device power. Photo by Bradley Neumann



Dual-use ground-mounted SES and blueberry farm. Photo by Mary Reilly.

MICHIGAN EXAMPLES: Many Michigan communities with both small-scale and large-scale solar regulations have zoned on-site solar energy systems as accessory uses. The City of Bay City (Bay Co.), Lyon Charter Township (Oakland Co.), and Almont Township (Lapeer Co.) all permit roof-mounted systems as an accessory use in all districts. Van Buren Charter Township (Wayne Co.), Albert Township (Montmorency Co.), and Chester Township (Ottawa Co.) all expand this provision (e.g. permitting roof-mounted systems as an accessory use in all districts) by permitting both on-site roof-mounted and ground-mounted systems in all districts as an accessory use. [End of example]

C. BUILDING-INTEGRATED SES

1. Building-Integrated SES are subject only to zoning regulations applicable to the structure or building and not subject to accessory ground or roof-mounted SES permits.

In addition to the General Provisions (above), also add the following standards for Small Principal-Use SES to the General Provisions article of the zoning ordinance. Also add 'Small Principal-Use SES' to the list of permitted uses in all zoning districts (or where desired). A community will need to decide whether a Small Principal-Use SES application is reviewed solely by the zoning administrator, reviewed and approved by the planning commission, or a hybrid, wherein the zoning administrator has the option to review/approve or advance the application to the planning commission for review/approval.

D. SMALL PRINCIPAL-USE SES: A Small Principal-Use SES is a permitted use in ____ [e.g., all, non-residential] zoning districts subject to site plan review and shall meet all of the following requirements:

1. **Height:** Total height shall not exceed ____ [e.g. 20] feet measured from the ground to the top of the system when oriented at maximum tilt.
2. **Setbacks:** Setback distance shall be measured from the property line or road right-of-way to the closest point of the solar array at minimum tilt or any SES components and as follows:
 - a. A Ground-Mounted SES shall follow the setback distance for primary buildings or structures for the district in which it is sited.
 - b. A Ground-Mounted SES is not subject to property line setbacks for common property lines of two or more participating lots, except road right-of-way setbacks shall apply.
3. **Fencing:** A Small Principal-Use SES may [shall] be secured with perimeter fencing to restrict unauthorized access. If installed, perimeter fencing shall be a maximum of ____ [e.g. something greater than or equal to 7] feet in height. ____ [Barbed wire is prohibited.] Fencing is not subject to setbacks.



Ground-mounted SES in rural setting. Photo by Bradley Neumann.

COMMENTARY: Principal-Use SES may be subject to regulations, such as those of the National Electrical Code (NEC), that require a perimeter fence. The current NEC standards call for a 6-foot fence with three lines of barbed wire, or a 7-foot fence with no barbed wire. A community could ban the use of barbed wire at an SES and still allow for compliance with the NEC, so long as the fencing is allowed to be at least 7 feet. If an SES is not subject to the NEC, wildlife-friendly fencing, commonly made of smooth wiring to prevent injury with openings that allow wildlife to move through, should be used where appropriate. A community may choose to be less prescriptive in fencing requirements so long as the requirements do not conflict with NEC requirements (e.g. by limiting fence height to 5 feet). [End of commentary]

4. **Screening/Landscaping:** A Small Principal-Use SES shall be designed to follow the screening and/or landscaping standards for the zoning district of the project site. Any required screening and landscaping shall be placed outside the perimeter fencing.
 - a. In districts that call for screening or landscaping along rear or side property lines, these shall only be required where an adjoining non-participating lot has an existing residential or public use.
 - b. When current zoning district screening and landscaping standards are determined to be inadequate based on a legitimate community purpose consistent with local government planning documents, the Zoning Administrator [or Planning Commission] may require substitute screening consisting of native deciduous trees planted __ [e.g. 30] feet on center, and native evergreen trees planted __ [e.g. 15] feet on center along existing non-participating residential uses.
 - c. The Zoning Administrator [or Planning Commission] may reduce or waive screening requirements provided that any such adjustment is in keeping with the intent of the Ordinance and is appropriately documented (e.g. abutting participating lots; existing vegetation).
 - d. Screening/landscaping detail shall be submitted as part of the site plan that identifies the type and extent of screening for a Small Principal-Use SES, which may include plantings, strategic use of berms, and/or fencing.
5. **Ground Cover:** A Small Principal-Use SES shall include the installation of perennial ground cover vegetation maintained for the duration of operation until the site is decommissioned. The applicant shall include a ground cover vegetation establishment and management plan as part of the site plan.

- a. An SES utilizing agrivoltaics is exempt from perennial ground cover requirements for the portion of the site employing the dual-use practice.
 - b. Project sites with majority existing impervious surface or those that are included in a brownfield plan adopted under the Brownfield Redevelopment Financing Act, PA 381 of 1996, as amended, are exempt from ground cover requirements. These sites must comply with the on-site stormwater requirements of the ordinance.
6. **Lot Coverage:** A Small Principal-Use SES shall not count towards the maximum lot coverage or impervious surface standards for the district.

COMMENTARY: One of the reasons to exempt large and small principle-use SES from maximum lot coverage or impervious surface standards is because there are practical challenges to measuring the overall footprint of principal-use systems, since they may include tilting panels and access drives. Communities who choose not to include this exemption must decide which elements of an SES count/do not count toward lot coverage and make clear how lot coverage should be calculated for co-located systems. If the community's intent is to minimize a development's impervious surface area, consider using the ground cover provisions within this sample language instead. They serve the same purpose and avoid unnecessary limitations and ambiguities. [End of commentary]

- 7. **Land Clearing:** Land disturbance or clearing shall be limited to what is minimally necessary for the installation and operation of the system and to ensure sufficient all-season access to the solar resource given the topography of the land. Topsoil distributed during site preparation (grading) on the property shall be retained on site.
- 8. **Access Drives:** New access drives within the SES shall be designed to minimize the extent of soil disturbance, water runoff, and soil compaction on the premises. The use of geotextile fabrics and gravel placed on the surface of the existing soil for temporary roadways during the construction of the SES is permitted, provided that the geotextile fabrics and gravel are removed once the SES is in operation.
- 9. **Wiring:** SES wiring (including communication lines) may be buried underground. Any above-ground wiring within the footprint of the SES shall not exceed the height of the solar array at maximum tilt.
- 10. **Lighting:** Lighting shall be limited to inverter and/or substation locations only. Light fixtures shall have downlit shielding and be placed to keep light on-site and glare away from adjacent properties, bodies of water, and adjacent roadways. Flashing or intermittent lights are prohibited.
- 11. **Signage:** An area up to ___ square feet [should be consistent with the district or sign type standard] may be used for signage at the project site. Any signage shall meet the setback, illumination, and materials/construction requirements of the zoning district for the project site.
- 12. **Sound:** The sound pressure level of a Small Principal-Use SES and all ancillary solar equipment shall not exceed ___ [e.g. 45] dBA (Leq (1-hour)) at the property line of an adjoining non-participating lot. The site plan shall include modeled sound isolines extending from the sound source to the property lines to demonstrate compliance with this standard.
- 13. **Repowering:** In addition to repairing or replacing SES components to maintain the system, a Small Principal-Use SES may at any time be repowered by reconfiguring, renovating, or replacing the SES to increase the power rating within the existing project footprint.
 - a. A proposal to change the project footprint of an existing SES shall be considered a new application, subject to the ordinance standards at the time of the request.

COMMENTARY: The goal of the above sample sound regulation for both small and large principal-use SES is to determine compliance with the sound standard during site plan review, as opposed to long-term monitoring or enforcement by staff. Predicting noise levels and mitigating through site design is more efficient and cost-effective than mitigating an issue after the project is complete. During the site plan phase, applicants have more options to reduce noise impacts on adjoining property owners, such as by placing inverters closer to the center of the project or covering axis motors. Sound isolines on a site plan would show predicted sound levels, typically in 5 decibel increments, starting at the sound source and extending to or beyond the property line. Sound isolines are similar to contour lines on a topographical map and provide helpful information to the approving body and adjoining property owners. [End of commentary]

14. **Decommissioning:** Upon application, a decommissioning plan shall be submitted indicating the anticipated manner in which the project will be decommissioned, including a description of which above-grade and below-grade improvements will be removed, retained (e.g. access drive, fencing), or restored for viable reuse of the property consistent with the zoning district.
 - a. An SES owner may at any time:
 - i. Proceed with the decommissioning plan approved by the Zoning Administrator [or Planning Commission] under Section ___ [of local government ordinance] and remove the system as indicated in the most recent approved plan; or
 - ii. Amend the decommissioning plan with Zoning Administrator [or Planning Commission] approval and proceed according to the revised plan.
 - b. Decommissioning an SES must commence when the soil is dry to prevent soil compaction and must be complete within ___ [e.g., 18 months] after abandonment. An SES that has not produced electrical energy for ___ [e.g., 12] consecutive months shall prompt an abandonment hearing.



SPECIAL LAND-USE STANDARDS

Add to the Special Land Uses article of the ordinance, as a separate section, the following provisions for large principal-use SES. Also add 'large principal-use SES' to the list of special land uses in the zoning districts where appropriate. See discussion on the Rural-to-Urban Transect above.

A. LARGE PRINCIPAL-USE SES: A large principal-use SES is a special land use in the zoning districts specified and shall meet the following requirements:

1. **Height:** Total height for a large principal-use SES shall not exceed the maximum allowed height in the district in which the system is located [or a lesser height, such as __ [e.g., 20] feet].
2. **Setbacks:** Setback distance shall be measured from the property line or road right-of-way to the closest point of the solar array at minimum tilt or any SES components and as follows:
 - a. In accordance with the setbacks for principal buildings or structures for the zoning district of the project site [or __ [e.g. 50] feet from the property line of a non-participating lot].
 - b. __ [e.g., 100] feet from any existing dwelling unit on a non-participating lot.
 - c. A Ground-Mounted SES is not subject to property line setbacks for common property lines of two or more participating lots, except road right-of-way setbacks shall apply.
3. **Fencing:** A large principal-use SES may [shall] be secured with perimeter fencing to restrict unauthorized access. If installed, perimeter fencing shall be a maximum of __ [e.g. something greater than or equal to 7] feet in height. [Barbed wire is prohibited.] Fencing is not subject to setbacks.
4. **Screening/Landscaping:** A large principal-use SES shall follow the screening and/or landscaping standards for the zoning district of the project site. Any required screening and landscaping shall be placed outside the perimeter fencing.
 - a. In districts that call for screening or landscaping along rear or side property lines, these shall only be required where an adjoining non-participating lot has an existing residential or public use.

Lapeer Solar Park. Photo by Bradley Neumann.



- b. When current zoning district screening and landscaping standards are determined to be inadequate based on a legitimate community purpose consistent with local government planning documents, the Planning Commission may require substitute screening consisting of native deciduous trees planted ___ [e.g. 30] feet on center, and native evergreen trees planted ___ [e.g. 15] feet on center along existing non-participating residential uses.
- c. The Planning Commission may reduce or waive screening requirements provided that any such adjustment is in keeping with the intent of the Ordinance.
- d. Screening/landscaping detail shall be submitted as part of the site plan that identifies the type and extent of screening for a large principal-use SES, which may include plantings, strategic use of berms, and/or fencing.

COMMENTARY: Zoning requirements may impact the ability for the land to be returned to its original use. For example, required berming, substantial vegetative screening, or on-site stormwater detention/retention (which may be regulated by the Drain Commissioner, for example) may need to be removed or altered in order to return the land to its previous use. In considering whether to reduce, waive, or expand vegetation and screening standards, communities should take landowner considerations relating to reuse into account. [End of commentary]

5. **Ground Cover:** A large principal-use SES shall include the installation of ground cover vegetation maintained for the duration of operation until the site is decommissioned. The applicant shall include a ground cover vegetation establishment and management plan as part of the site plan. Vegetation establishment must include invasive plant species [and noxious weed, if local regulation applies] control. The following standards apply:
 - a. Sites bound by a Farmland Development Rights (PA 116) Agreement must follow the Michigan Department of Agriculture and Rural Development's Policy for Allowing Commercial Solar Panel Development on PA 116 Lands.
 - b. Ground cover at sites not enrolled in PA 116 must meet one or more of the four types of Dual Use defined in this ordinance.
 - i. Pollinator Habitat: Solar sites designed to meet a score of 76 or more on the Michigan Pollinator Habitat Planning Scorecard for Solar Sites.
 - ii. Conservation Cover: Solar sites designed in consultation with conservation organizations that focus on restoring native plants, grasses, and prairie with the aim of protecting specific species (e.g., bird habitat) or providing specific ecosystem services (e.g., carbon sequestration, soil health).
 - iii. Forage: Solar sites that incorporate rotational livestock grazing and forage production as part of an overall vegetative maintenance plan.
 - iv. Agrivoltaics: Solar sites that combine raising crops for food, fiber, or fuel, and generating electricity within the project area to maximize land use. Project sites that are included in a brownfield plan adopted under the Brownfield Redevelopment Financing Act, PA 381 of 1996, as amended, that contain impervious surface at the time of construction or soils that cannot be disturbed, are exempt from ground cover requirements
 - c. Project sites that are included in a brownfield plan adopted under the Brownfield Redevelopment Financing Act, PA 381 of 1996, as amended, that contain impervious surface at the time of construction or soils that cannot be disturbed, are exempt from ground cover requirements.

COMMENTARY: The Michigan Department of Agriculture and Rural Development policy for allowing commercial solar energy development on PA 116 lands requires that any portion of the site not included in pollinator plantings must maintain U.S. Department of Agriculture, Natural Resources Conservation Service Conservation Cover Standard 327. Standard 327 reduces erosion, enhances wildlife, pollinator, and beneficial organism habitat, and improves soil health. Standard 327 can be implemented to support grazing animals with the right mix of forage crops. However, if grazing is the primary forage management practice, Prescribed Grazing Standard 528 may be a more useful standard to follow. Standard 528, however, does not apply to solar projects on land enrolled in PA 116 because the policy specifically recommends using Standard 327. There is flexibility within each standard to develop site-specific seed mixes. Private consultants as well as local NRCS staff can help develop a plan to implement these standards in a solar project. [End of commentary]

COMMENTARY: As discussed on Page 15, if a community's existing master plan and ordinance include farmland preservation provisions, it may make sense to extend them to large principal-use SES. In that case, signal your community's desire for development that minimizes impacts to locally important soil classifications through language such as:

Agricultural Protection: For sites where agriculture is a permitted use in a district, a large principal-use SES may be sited to minimize impacts to agricultural production through site design and accommodations including [select those most applicable to your community]:

- a. The ground mounting of panels by screw, piling, or a similar system that does not require a footing, concrete, or other permanent mounting in order to minimize soil compaction, [and/or]
- b. Siting panels to avoid disturbance and compaction of farmland by siting panels along field edges and in nonproduction areas to the maximum extent practicable and financially feasible, [and/or]
- c. Maintaining all drainage infrastructure on site, including drain tile and ditches, during the operation of the SES, [and/or]
- d. Siting the SES to avoid isolating areas of the farm operation such that they are no longer viable or efficient for agricultural production, including, but not limited to, restricting the movement of agricultural vehicles/equipment for planting, cultivation, and harvesting of crops, and creating negative impacts on support infrastructure such as irrigation systems or drains, or
- e. Voluntarily purchasing agricultural conservation easements from an equivalent number of prime farmland acres consistent with a purchase of development rights ordinance adopted under state law in ____ [local unit of government].

The above list is presented as a menu of sample standards and is neither a comprehensive list nor intended to be adopted in its entirety or verbatim. A local government that wishes to protect agricultural land from future development should work with a qualified planner and attorney to develop a comprehensive approach in the master plan and zoning ordinance that addresses threats to farmland from all types of development pressure. [End of commentary]



Aerial view of Tecumseh solar farm. Photo by Harvest Solar.

MICHIGAN EXAMPLES: Communities in Michigan have differing approaches to the compatibility of solar energy and agriculture. Here are some examples:

"Solar energy equipment shall only be located in an area determined to be "not prime farmland" by the U.S. Department of Agriculture (USDA), per the USDA's Farmland Classification Map as of the date of Special Use Application for a Utility-Scale Solar Energy Collector System."

- Chester Township Zoning Ordinance (Ottawa Co.), Section 1912

"All solar arrays greater than ten (10) acres in area must include one or more of the following amongst the panels of the solar array: Crop cultivation; Livestock grazing, with the panels raised to allow an eight (8) foot clearance for animals to pass underneath; or Pollinator fields, including milkweed and other native plantings."

- Grand Haven Charter Township Zoning Ordinance 2020 (Ottawa Co.), Section 3.03

"Solar energy systems in Oliver Township are considered a compatible use in the Agricultural Preservation District. The siting of a ground mounted solar energy system is permitted in the Agricultural Preservation District (Chapter 5) and must conform to the front, rear, and side yard setback requirements described in Section 504."

- Oliver Township Zoning Ordinance (Huron Co.), Section 1305 [End of example]

COMMENTARY: Some communities require a performance guarantee for small and large principal-use SES for the cost of grading and on-site ground cover establishment in the form of a bond, letter of credit, or establishment of an escrow account. The rationale is that if a site is cleared of vegetation and graded, but the project is not completed, there is a financial guarantee that the site will be stabilized. Such a provision may be redundant with Soil Erosion and Sedimentation Control (SESC) bonding requirements for projects larger than one acre, or for land enrolled in the Michigan Department of Agriculture of Rural Development's (MDARD) PA 116 Farmland and Open Space Preservation Program.

Regarding decommissioning guarantees, MDARD, as mentioned above, requires a surety bond or irrevocable letter of credit for solar development on PA 116 land to cover the cost of the removal of the solar facility and the restoration of the land to agricultural use. A community may wish to tailor the sample standard below based on this requirement by MDARD or provide an exception from the local government decommissioning guarantee for land enrolled in PA 116.

A periodic review (such as every 3-5 years) of the decommissioning guarantee will ensure adequate funds are available to cover decommissioning costs 20-30 years down the road. A review might also be triggered if there is a change of ownership. The ordinance should specify which body is responsible for approving the amount of the performance guarantee; the planning commission could recommend an amount, but the legislative body should make the final decision. When considering this language, a community could review how performance guarantees are handled for other types of developments, such as landscaping guarantees, and discuss how this could be the same or different. The amount of the guarantee for an SES may prompt a different level of review. [End of commentary]

6. **Lot Coverage:** A large principal-use SES shall not count towards the maximum lot coverage or impervious surface standards for the district.
7. **Land Clearing:** Land disturbance or clearing shall be limited to what is minimally necessary for the installation and operation of the system and to ensure sufficient all-season access to the solar resource given the topography of the land. Topsoil distributed during site preparation (grading) on the property shall be retained on site.
8. **Access Drives:** New access drives within the SES shall be designed to minimize the extent of soil disturbance, water runoff, and soil compaction on the premises. The use of geotextile fabrics and gravel placed on the surface of the existing soil for the construction of temporary drives during the construction of the SES is permitted, provided that the geotextile fabrics and gravel are removed once the SES is in operation.
9. **Wiring:** SES wiring (including communication lines) may be buried underground. Any above-ground wiring within the footprint of the SES shall not exceed the height of the solar array at maximum tilt.
10. **Lighting:** Large principal-use SES lighting shall be limited to inverter and/or substation locations only. Light fixtures shall have downlit shielding and be placed to keep light on-site and glare away from adjacent properties, bodies of water, and adjacent roadways. Flashing or intermittent lights are prohibited.
11. **Signage:** An area up to ___ square feet [should be consistent with the district or sign type standard] may be used for signage at the project site. Any signage shall meet the setback, illumination, and materials/construction requirements of the zoning district for the project site.
12. **Sound:** The sound pressure level of a large principal-use SES and all ancillary solar equipment shall not exceed ___ [e.g. 45] dBA (Leq (1-hour)) at the property line of an adjoining non-participating lot. The site plan shall include modeled sound isolines extending from the sound source to the property lines to demonstrate compliance with this standard.

- 13. Repowering:** In addition to repairing or replacing SES components to maintain the system, a large principal-use SES may at any time be repowered, without the need to apply for a new special land-use permit, by reconfiguring, renovating, or replacing the SES to increase the power rating within the existing project footprint.
- a. A proposal to change the project footprint of an existing SES shall be considered a new application, subject to the ordinance standards at the time of the request. [Expenses for legal services and other studies resulting from an application to modify an SES will be reimbursed to the ____ [local unit of government] by the SES owner in compliance with established escrow policy.]

COMMENTARY: A fundamental zoning concept is that a zoning ordinance must allow for nonconformities—that is, the continuation of a land use or structure that was legally established before a change in zoning that no longer permits the use or structure location. Zoning ordinances have standards for replacement, reconstruction, and expansion of nonconformities. For example, the decision could be centered around the replacement components’ monetary value—a new investment of 50% or more of the value of the project is a typical threshold for nonconformities. The zoning board of appeals or the planning commission, whichever is charged with making decisions on nonconformities, would decide the fate of the project based on the nonconforming standards in the ordinance, rather than following the original special land-use permit review process. A proposal to expand the footprint of the system could be at odds with ordinance rules for enlarging nonconformities. In that case, the ordinance may dictate that the proposal must be scaled back to meet the rules for replacing nonconformities, otherwise decommissioning may be the only option. If decommissioning is not the intended or desired outcome, a community has the option to amend the ordinance to allow for SES again, thereby releasing the project from nonconforming status. Communities should work with a municipal attorney to explore preferred options for the SES and how SES will be treated under an application to repower the system. [End of commentary]

- 14. Decommissioning:** A decommissioning plan is required at the time of application.
- a. The decommission plan shall include:
 - i. The anticipated manner in which the project will be decommissioned, including a description of which above-grade and below-grade improvements will be removed, retained (e.g. access drive, fencing), or restored for viable reuse of the property consistent with the zoning district,
 - ii. The projected decommissioning costs for removal of the SES (net of salvage value in current dollars) and soil stabilization, less the amount of the surety bond posted with the State of Michigan for decommissioning of panels installed on PA 116 lands,
 - iii. The method of ensuring that funds will be available for site decommissioning and stabilization (in the form of surety bond, irrevocable letter of credit, or cash deposit), and
 - b. A review of the amount of the performance guarantee based on inflation, salvage value, and current removal costs shall be completed every ____ [e.g., 3 or 5] years, for the life of the project, and approved by the _____ [legislative body] board. An SES owner may at any time:
 - i. Proceed with the decommissioning plan approved by the Zoning Administrator [or Planning Commission] under Section ____ [of local government ordinance] and remove the system as indicated in the most recent approved plan; or
 - ii. Amend the decommissioning plan with Zoning Administrator [or Planning Commission] approval and proceed according to the revised plan.
 - c. Decommissioning an SES must commence when the soil is dry to prevent soil compaction and must be complete within ____ [e.g., 18 months] after abandonment. An SES that has not produced electrical energy for ____ [e.g., 12] consecutive months shall prompt an abandonment hearing.



Consumers Energy - Western Michigan University, Business Technology and Research Park solar garden. Photo by Mary Reilly.

SITE PLAN REVIEW

Add to the Site Plan Review article of the zoning ordinance, as a separate section (or to the section of the ordinance with site plan requirements), the following provisions for Principal-Use SES. Consider using the following checklist to determine if the application is complete. In this sample, a large principal-use SES is proposed to be reviewed as special land use. A Small Principal-Use SES is proposed to be reviewed as a permitted use with a required site plan. When reviewing a Small Principal-Use SES, a community will need to choose one of the following approaches:

- **Administrative:** *The Zoning Administrator reviews and approves or denies a Small Principal-Use SES when following the site plan review requirements below.*
- **Administrative/Planning Commission:** *The Zoning Administrator could perform site plan review with the option to send the application to the Planning Commission for site plan review. This option could be utilized to provide greater public input and shared responsibility, such as for a high-interest or high-visibility application.*

Site Plans and supporting application materials for a Principal-Use SES shall include a detailed site plan including all applicable requirements found in Article XX, Section XX [the section of the ordinance with general site plan standards] of this ordinance, except that site plans for large principal-use SES shall be submitted at a scale of 1" = ____ [e.g., 200] feet, plus the following site plan requirements:

SITE PLAN REQUIREMENT (X = Required, NA = Not Applicable)	Small Principal-Use	Large Principal-Use
The location of all solar arrays, including setbacks, the width of arrays and distance between arrays plus total height and height to the lowest edge above grade, ancillary structures and electric equipment, utility connections, and dwellings on the property and within ___ [e.g. 150] feet of the property lines, participating and non-participating lots, existing and proposed structures, buried or above ground wiring, temporary and permanent access drives, fencing detail, screening/landscape detail, berm detail, and signs.	X	X
Plans for land clearing and/or grading required for the installation and operation of the system, and plans for ground cover establishment and management.	X	X
Sound modeling study including sound isolines extending from the sound source(s) to the property lines of adjoining non-participating lots.	X	X
A Decommissioning Plan as applicable: <ul style="list-style-type: none"> For a Small Principal-Use SES, a decommissioning plan including a description of which above-grade and below-grade improvements will be removed, retained, or restored for viable reuse of the property consistent with the zoning district. 	X	N/A
<ul style="list-style-type: none"> For a large principal-use SES, 1) a decommissioning plan including a description of which above-grade and below-grade improvements will be removed, retained, or restored for viable reuse of the property consistent with the zoning district, 2) the projected decommissioning costs for SES removal (net of salvage value in current dollars) and soil stabilization, less the amount of the surety bond posted with the State of Michigan for decommissioning of panels installed on PA 116 lands, and 3) the method of ensuring that funds will be available for site decommissioning and stabilization (in the form of surety bond, irrevocable letter of credit, cash deposit). 	N/A	X
The location of prime farmland [and/or farmland of statewide importance, farmland of local importance, unique farmland, and prime farmland if drained] as defined in the U.S. Department of Agriculture, Natural Resources Conservation Service - Web Soil Survey.	N/A	X [only if Ag Protection is part of the ordinance]
Completed copy of Michigan Pollinator Habitat Planning Scorecard for Solar Sites (when applicable).	N/A	X

SITE PLAN REQUIREMENT (X = Required, NA = Not Applicable)	Small Principal-Use	Large Principal-Use
<p>Additional studies may be required by the Planning Commission if reasonably related to the standards of this ordinance as applied to the application site, including but not limited to <i>[select those most applicable to your community; these do not directly link to standards in the sample language, but may be helpful in evaluating conformance with other ordinance standards]</i>:</p> <ul style="list-style-type: none"> • Visual Impact Assessment: A technical analysis by a third party qualified professional of the visual impacts of the proposed project, including a description of the project, the existing visual landscape, and important scenic resources, plus visual simulations that show what the project will look like (including proposed landscape and other screening measures) a description of potential project impacts, and mitigation measures that would help to reduce the visual impacts created by the project and documented on the site plan. • Environmental Analysis: An analysis by a third-party qualified professional to identify and assess any potential impacts on the natural environment including, but not limited to wetlands and other fragile ecosystems, wildlife, endangered and threatened species, historical and cultural sites, and antiquities. If required, the analysis shall identify all appropriate measures to minimize, eliminate or mitigate adverse impacts identified and show those measures on the site plan, where applicable. • Stormwater Study: An analysis by a third-party qualified professional that takes into account the proposed layout of the SES and how the spacing, row separation, and slope affects stormwater infiltration, including calculations for a 100-year rain event (storm). Percolation tests or site-specific soil information shall be provided to demonstrate infiltration on-site without the use of engineered solutions. • Glare Study: An analysis by a third-party qualified professional to determine if glare from the SES will be visible from nearby residents and roadways. If required, the analysis shall consider the changing position of the sun throughout the day and year, and its influence on the SES. 	N/A	X

Dual-use ground-mounted SES with conservation plantings. Photo by M. Charles Gould.

AUTHORS

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Acknowledgment

This material is based upon work supported by the Department of Energy and the Michigan Energy Office (MEO) under Award Number EE00007478. Find this document and more about the project online at extension.msu.edu/solarzoning.

HOWELL TOWNSHIP
Application for Site Plan Review

3525 Byron Road Howell, MI 48855
 Phone: 517-546-2817 ext. 108
 Email: inspector@howelltownshipmi.org

File # _____

Parcel ID #: 4706- <u>27_300_030</u>	Date <u>07/02/25</u>
Applicant Name <u>Mitch Harris Building Company</u> Applicant Address <u>211 N. First St. Suite 100</u>	
Phone <u>[REDACTED]</u> Fax _____ Email <u>[REDACTED]</u>	
Property Owner Name <u>Mitch Harris Building Company</u>	
Phone <u>[REDACTED]</u> Fax _____ Email <u>[REDACTED]</u>	
Please list all recipients to receive information and/or reports:	
Name: <u>Mitch Harris</u>	Email <u>[REDACTED]</u>
Name: <u>Colbie Harris</u>	Email <u>[REDACTED]</u>
Name: _____	Email _____

Location of Property <u>Edge Brook Drive</u>	Current Zoning Classification _____
Existing Use _____ Proposed Use _____	

Check One:

- | | |
|---|--|
| <input type="checkbox"/> Preliminary Site Plan Review (20.06) | <input checked="" type="checkbox"/> Final Site Plan Review (20.07) |
| <input type="checkbox"/> Temporary Use (14.34) | <input type="checkbox"/> Commercial/Industrial Development |
| <input type="checkbox"/> Subdivision/Site Plan Condo | <input type="checkbox"/> Multi-Family/Condo |
| <input type="checkbox"/> Planned Unit Development (PUD) Type: | 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> |

Applicant needs to provide the following site plan drawings: twelve (12) full size copies, eight (8) - 11" x 17" copies, and an electronic set (either on an USB drive or provide an online link) for the preliminary site plan drawings. Drawings shall be submitted with an application for site plan review (20.06 a) thirty (30) days prior to the meeting.

The site plan is to contain the following information or the drawing submitted under the Land Use Permit can be utilized if it also contains the following information and is accurately drawn to scale:

- a. The date, north arrow and scale. The scale shall be not less than 1" = 20' for property under three (3) acres and at least 1" = 100' for those (3) acres or more.
- b. Statistical data including number of dwelling units, size of dwelling units, if any, and total gross acreage involved. In the case of a mobile home park, the size and location of each mobile home site shall be shown.
- c. The location and height of all existing and proposed structures on and within 100' of the subject property's boundary.
- d. All lot and/or property lines are to be shown and dimensioned, including building setback lines on corner lots.
- e. The location and dimensions of all existing and proposed drives, sidewalks, curb openings, signs, exterior lighting, curbing, parking areas (show dimensions of a typical parking space), unloading areas and recreation areas.
- f. Vehicular traffic and pedestrian circulation features within and without the site.
- g. The location of all proposed landscaping, fences, or walls.
- h. Size and location of existing and proposed utilities, including proposed connection to public sewer or water supply system.
- i. A location map indicating the relationship of the site to the surrounding land uses.
- j. The location and pavement width and right-of-way width of all abutting roads, streets, alleys, or easements.
- k. Show properties and respective zoning abutting the subject property.
- l. The location and size of all surface water drainage facilities.
- m. Contour intervals shall be shown at a maximum of 2' intervals, with 1' intervals preferred for topographic features of the site.

By signing below the applicant understands and acknowledges the following statements:

- a. The Planning Commission has sixty (60) days from filing date to approve or deny site plan.
- b. Approval of preliminary site plan is valid for a period of one (1) year from date of approval.
- c. A one (1) year extension may be granted upon written request of the applicant and approval by the Planning Commission.
- d. Approval of preliminary site plan shall expire one year after approval of final site plan unless zoning permit has been obtained.
- e. Approval of the final site plan expires six (6) months after approval unless a land use permit application is applied for and granted.

- Applicant herby deposes and says that all the above statements and information contained in this application and any statements submitted herewith or on the site plan are true and accurate.

Tracy Mack

Print Name

Date _____

Subscribed and sworn to before me this _____ day of _____, 20____.

Notary Public _____ County, Michigan

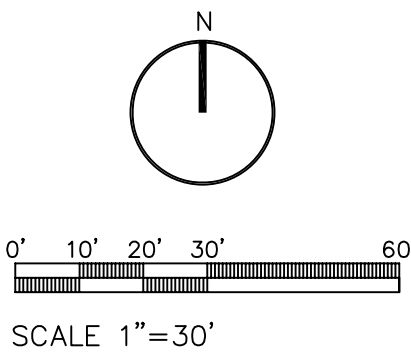
My Commission Expires: _____, 20____.

SITE DATA TABLE

ITEM	REQUIRED	PROPOSED
ZONING	MFR	MFR
LOT AREA	1.0 acres	2.24 acres gross
FRONTAGE	200 feet	747.02 feet
FRONT SETBACK	30 feet Edgewood Dr.	40.9 feet
FRONT SETBACK	50 feet Grand River Ave	66.5 feet
SIDE SETBACK	30 feet	32.7 feet
REAR SETBACK	50 feet	53.4 feet
MAX LOT COVERAGE	40% MAX	10.0%
OPEN SPACE AREA	10% MIN	53.57%

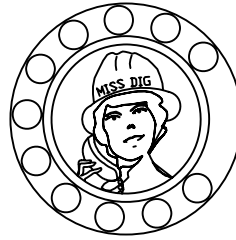
EX SAN MH
RM=899.15
12" NE=888.08
8" SW=888.18
8" SE=888.10

4706-27-300-029
2700 W. GRAND RIVER
ZONED MFR
COMMERCIAL USE



SHEET INDEX:

- #1 SITE GRADING PLAN
#2 PHOTO-METRIC LIGHTING PLAN
#3 LANDSCAPE PLAN



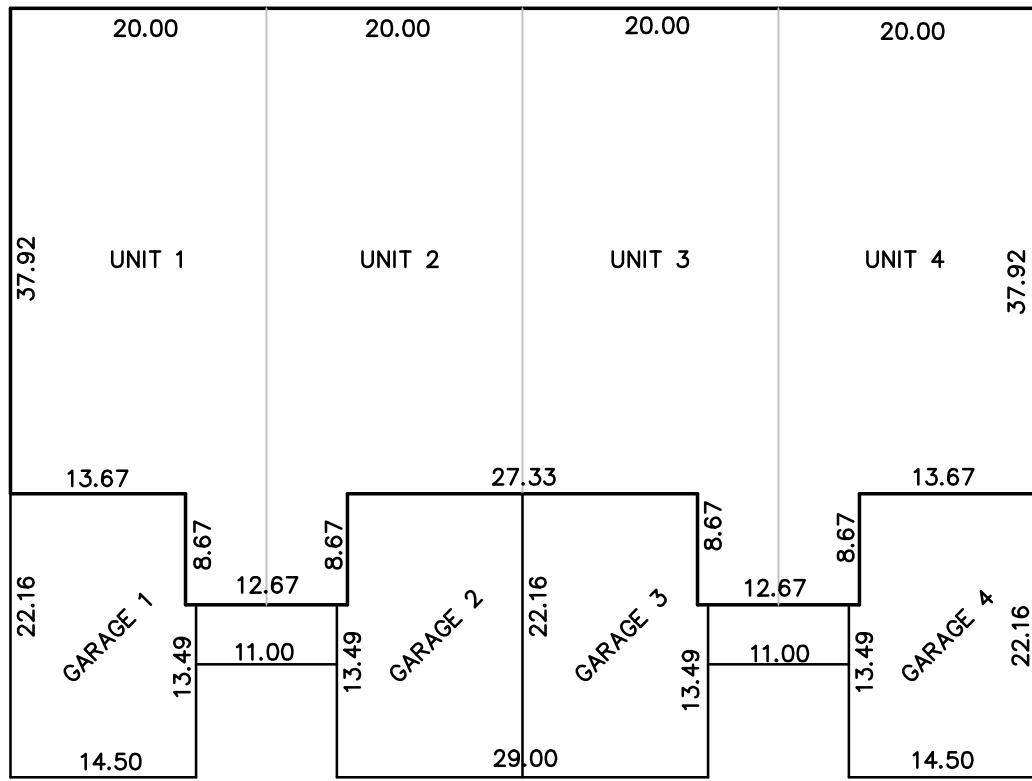
3 WORKING DAYS BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171
(TOLL FREE)
FOR THE LOCATION OF UNDERGROUND FACILITIES

GENERAL NOTES:

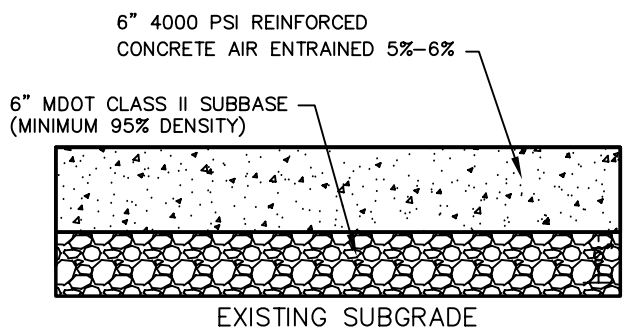
- #1. Garbage service shall be provided by individual garbage carts that shall be stored inside the garages. Garbage pickup shall be once per week with the carts placed along the curbside of Edgewood Drive for pickup.
- #2. The open space area shall be preserved in its natural state and no construction shall take place within its limits.
- #3. Each unit shall have one outside parking space out side the garage with dimensions of 14.5' x 20' (290 sf) and one parking space inside the garage with dimensions of 12.83' x 21.16 (271.48 sf)
- #4. Each unit shall have approved building numbers placed in a position that is plainly legible and visible from Edgewood Drive. The numbers shall be at least 6" high and shall contrast with their background.

LEGEND

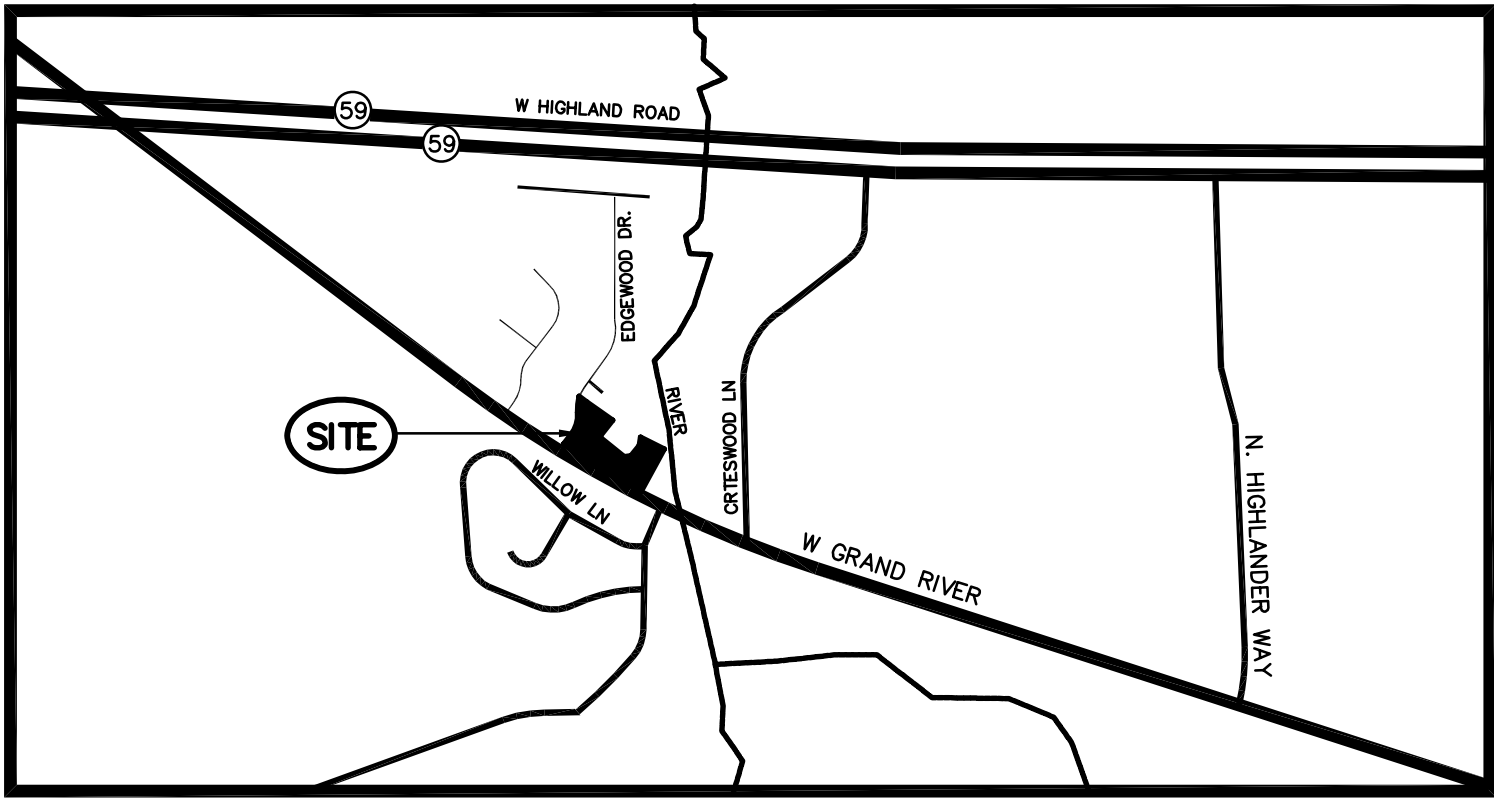
- DRAINAGE FLOW
★ EXISTING LIGHT
☆ PROPOSED LIGHT
+ SIGN
○ UTILITY POLE
■ CATCH BASIN
○ MANHOLE
⊕ GATE VALVE IN WELL
⊙ HYDRANT
x PROPOSED SPOT ELEVATION
— EXISTING SPOT ELEVATION
— MAJOR CONTOUR — 5 FT. INTERVAL
— MINOR CONTOUR — 1 FT. INTERVAL
— FENCE LINE
— EXISTING STORM SEWER
— EXISTING SANITARY SEWER (GRAVITY)
— EXISTING WATER MAIN
— G GAS MAIN
— T TELEPHONE LINE
— UGT UNDERGROUND TELEPHONE LINE
— E ELECTRIC LINE
— UGE UNDERGROUND ELECTRIC LINE
— OHE OVERHEAD ELECTRI LINE
○ DECIDUOUS TREE
★ CONIFEROUS TREE
☁ TREE & BRUSH LINE



BUILDING DIMENSION PLAN
NO SCLAE:



CONCRETE PAVEMENT SECTION
NO SCALE



SITE LOCATION MAP
NO SCLAE:

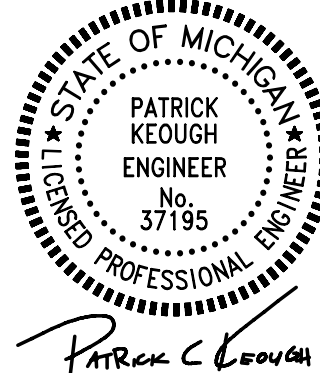
LEGAL DESCRIPTION:

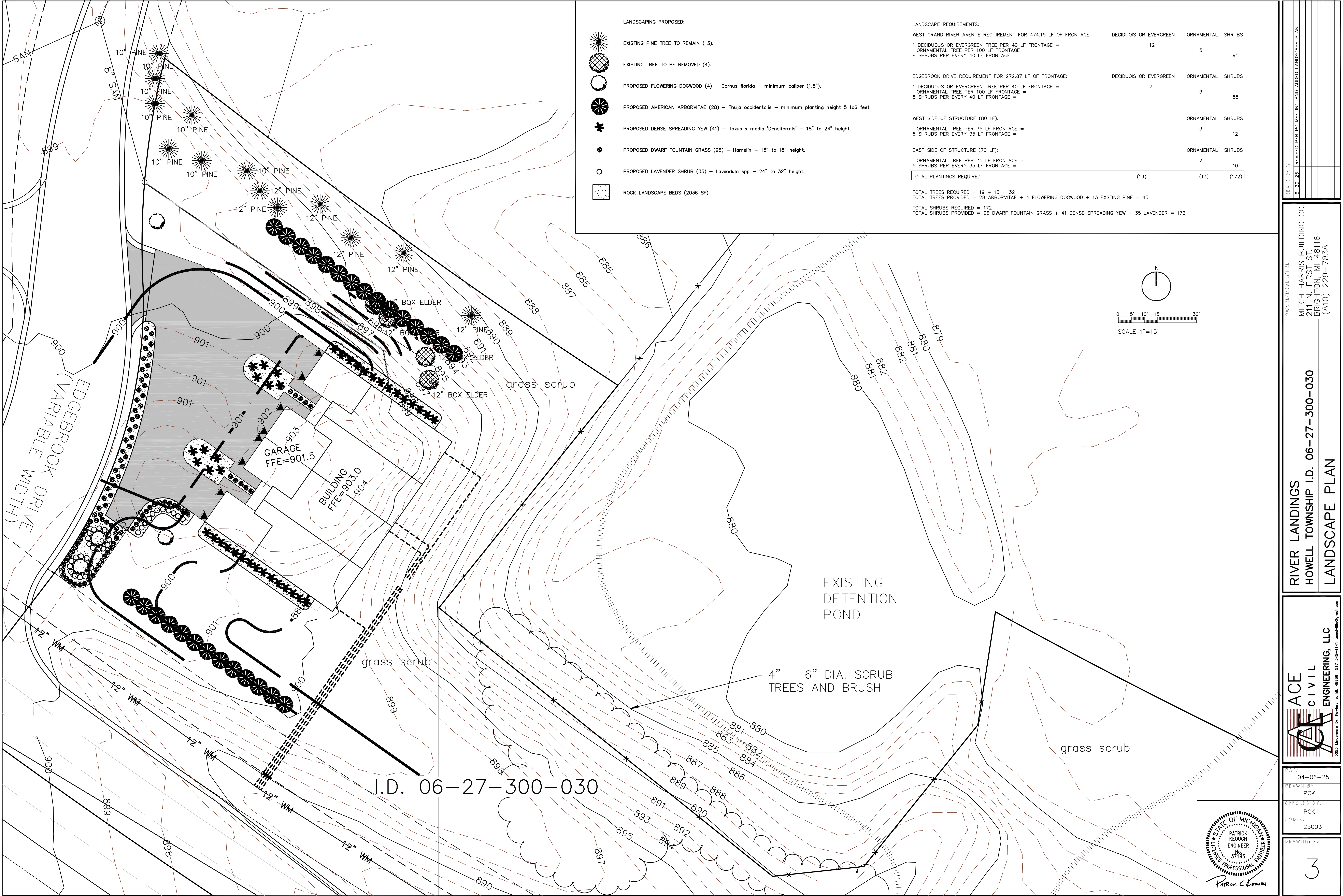
PART OF THE SOUTHWEST ¼ OF SECTION 27, T3N, R4E, HOWELL TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS: COMMENCING AT THE WEST ¼ CORNER OF SAID SECTION 27, THENCE S01°37'00"E ALONG THE WEST LINE OF SAID SECTION 27 AND THE CENTERLINE OF TOOLEY ROAD A DISTANCE OF 385.45 FEET TO THE CENTERLINE OF GRAND RIVER AVENUE; THENCE S52°31'00"E ALONG THE SAID CENTERLINE 2056.87 FEET; THENCE ON A CURVE TO THE LEFT ALONG SAID CENTERLINE 37.50 FEET, SAID CURVE HAVING A RADIUS OF 2455.70 FEET, A CENTRAL ANGLE OF 0°05'23"00" AND A CHORD OF 37.50 FEET BEARING S52°57'15"E TO THE POINT OF BEGINNING OF THIS DESCRIPTION, THENCE N37°29'00"E 63.35 FEET; THENCE ON A CURVE TO THE LEFT 122.67 FEET, SAID CURVE HAVING A RADIUS OF 175.00 FEET, A CENTRAL ANGLE OF 40°09'48" AND A CHORD OF 120.18 FEET BEARING N17°24'06"E TO A POINT OF REVERSE CURVATURE; THENCE ON A CURVE TO THE RIGHT 86.84 FEET, SAID CURVE HAVING A RADIUS OF 300.00 FEET, A CENTRAL ANGLE OF 16°35'06" AND A CHORD OF 86.54 FEET BEARING N05°36'45"E; THENCE S52°31'00"E 49.46 FEET; THENCE ON A CURVE CONCAVE TO THE NORTHEAST 165.85 FEET, SAID CURVE HAVING A RADIUS OF 2205.70 FEET, A CENTRAL ANGLE OF 0°41'29"00" AND A LONG CHORD OF 165.81 FEET BEARING S54°40'14"E; THENCE S38°49'31"W 110.00 FEET; THENCE S 51°10'29"E 165.00 FEET; THENCE N83°49'31"E 35.36 FEET; THENCE N38°49'31"E 70.00 FEET; THENCE N08°49'31"E 44.08 FEET; THENCE ON A CURVE CONCAVE TO THE NORTHEAST 137.15 FEET, SAID CURVE HAVING A RADIUS OF 2205.70 FEET, A CENTRAL ANGLE OF 0°33'46" AND A LONG CHORD OF 137.13 FEET BEARING S63°00'42"E; THENCE S 28°31'54"W 250.38 FEET TO A POINT ON SAID CENTERLINE OF GRAND RIVER AVENUE, THENCE ON A CURVE CONCAVE TO THE NORTHEAST ALONG SAID CENTERLINE 474.15 FEET, SAID CURVE HAVING A RADIUS OF 2455.70 FEET, A CENTRAL ANGLE OF 11°03'46" AND A LONG CHORD OF 473.41 FEET BEARING N58°55'25"W TO THE POINT OF BEGINNING; SAID PARCEL CONTAINING 2.24 ACRES MORE OR LESS INCLUDING THE RIGHT OF WAY OF WAY IN GRAND RIVER AVENUE, SAID PARCEL SUBJECT TO EASEMENTS OF RECORD.

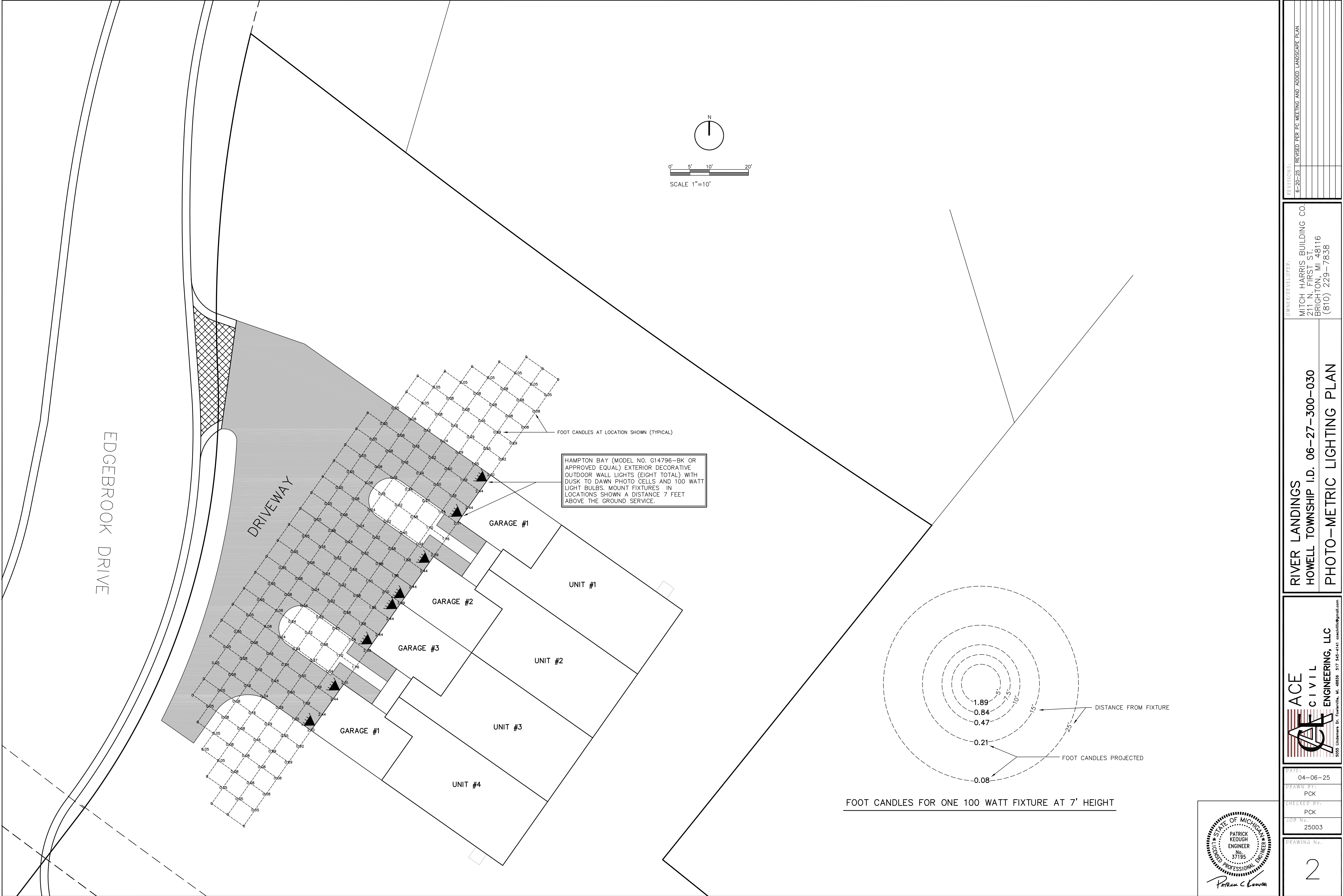
RIVER LANDINGS
HOWELL TOWNSHIP I.D. 06-27-300-030
SITE GRADING PLAN

ACE
CIVIL
ENGINEERING, LLC

DATE: 04-06-25
DRAWN BY: PCK
CHECKED BY: PCK
JOB No.: 25003
DRAWING No.: 1







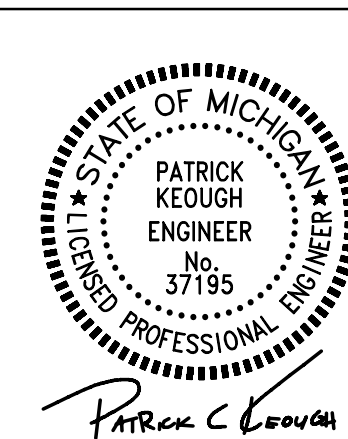
REVISIONS:	8-20-25	REVISED PER PC MEETING AND ADDED LANDSCAPE PLAN
OWNER/DEVELOPER:	MITCH HARRIS BUILDING CO.	
	211 N. FIRST ST.	
	BRIGHTON, MI 48116	
	(810) 229-7838	

RIVER LANDINGS
HOWELL TOWNSHIP I.D. 06-27-300-030
PHOTO-METRIC LIGHTING PLAN

ACE CIVIL ENGINEERING, LLC
5055 Underwood Dr., Farmington Hills, MI 48335 517 545-4141 acecivil@gmail.com

DATE: 04-06-25
DRAWN BY: PCK
CHECKED BY: PCK
JOB No. 25003

DRAWING No. 2





Carlisle | Wortman
ASSOCIATES, INC.

117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

Preliminary Review Date: March 19, 2025

Revised Date: May 20, 2025

Revised Date: July 16, 2025

Site Plan Review For Howell Township, Michigan

Applicant:	Mitch Harris Building Company
Project Name:	The River Landings / River Downs
Plan Date:	June 20, 2025
Location:	Corner of Grand River Ave and Edgebrook Dr. Parcel ID #4706 – 27 – 300 – 030
Zoning:	Multiple Family Residential (MFR)
Action Requested:	Preliminary Site Plan Approval

PROJECT AND SITE DESCRIPTION

The applicant has resubmitted a preliminary site plan, dated January 10, 2025 with updated grading and photometric plans dated April 6, 2025 for a four (4) unit townhome development located at the corner of Grand River Ave and Edgebrook Dr. (parcel ID #4706-27-300-030). The proposed townhomes are two and a half (2.5) stories, each with an attached garage and a first-floor patio. Due to the site's unconventional layout, the building's location is along the western boundary line abutting Edgebrook Drive.

The subject site is 2.24 acres and almost entirely covered in an array of foliage. The site is directly across from a dental office, with residential uses on the other surrounding parcels. CSX Railroad tracks are approximately a quarter mile to the south of the site. The Livingston County Airport is

Benjamin R. Carlisle, *President* John L. Enos, *Vice President* Douglas J. Lewan, *Principal*
David Scurto, *Principal* Sally M. Elmiger, *Principal* R. Donald Wortman, *Principal* Craig Strong, *Principal*
Paul Montagno, *Principal* Megan Masson-Minock, *Principal* Laura Kreps, *Principal*
Richard K. Carlisle, *Past President/Senior Principal*

located approximately one mile northwest of the site. The Shiawassee River runs near the eastern boundary line.

Figure 1. Aerial Image of Subject Site and Vicinity



Source: NearMap (October 6, 2024)

Items to be Addressed: None.

NEIGHBORING ZONING, LAND USE AND MASTER PLAN

Neighboring zoning designations are summarized in Table 1.

Table 1. Zoning, Land Use and Master Plan Designations

	Zoning	Existing Land Use	Master Plan Designations
Subject Site	MFR – Multiple Family Residential	Vacant	Recreation and Preservation
North	MFR – Multiple Family Residential	Residential/Natural Vegetation	Residential-Low Density, Recreation and Preservation
South	SFR - Single Family Residential	Residential	Residential-Low Density
East	NSC - Neighborhood Service Commercial	Residential	Recreation and Preservation
West	MFR – Multiple Family Residential	Dentist Office	Commercial-Local

Figure 2. Future Land Use Subject Site and Vicinity



The current zoning designation for the site allows for multiple family housing. In contrast, the Howell Township Master Plan designates the sites future land use as Recreation and Preservation, where the intended uses are parks, open space, greenways, natural areas, golf courses, and agriculture lands preserved through conservation easements or other mechanisms.

While the Planning Commission must approve a use which is allowed under current zoning so long as all the necessary requirements have been met, we note that through the proposed preservation of a large majority of the site that the applicant is in line with the current Zoning Ordinance and Master Plan goals and vision for the area.

Items to be Addressed: None.

AREA, WIDTH, HEIGHT, SETBACKS

The following table summarizes the Density, Placement, and Height Regulations for the site plan associated with the use. The proposed structures appear to meet all dimensional regulations of the zoning ordinance.

Table 2. Density, Placement, and Height Regulations

	Required	Provided	Complies
Lot Area	2 Acres	2.24 Acres	Complies
Lot Width	200 Feet	747 Feet	Complies
Front Setback	Grand River Ave: 50 Feet Edgebrook Drive: 30 Feet	Grand River Ave: 66.5 Feet Edgebrook Drive: 40.9 Feet	Complies
Side Setback	30 Feet	Approx. 33 Feet	Complies
Rear Setback	50 Feet	Approx. 53 Feet	Complies
Lot Coverage	40 % Max	10 %	Complies
Building Height	60 Feet Max 5 Stories	30.8 Feet 2.5 Stories	Complies

Additional requirements for multiple family residential developments in Section 7.06 include:

Open spaces comprising at least 10% of the total gross area of the project with the open spaces of at least three (3) acres in size and planned and built as a common facility to be used, operated and maintained by the developer or a nonprofit association representing the property owners and financed by means of a monthly or annual assessment.

The gross area of the project is 2.24 acres with 53.57% remaining open space. Sheet 1 notes that the open space area will be preserved in its natural state with no construction taking place within the limits provided. Additionally, each unit has what appears to be a dedicated back yard for usable open space.

Items to be Addressed: None.

PARKING, LOADING

The applicant has provided two (2) parking spaces per dwelling unit. Each unit is proposed to include a one-car garage with an interior area of 271.48 square feet (12.83' x 21.16'), which satisfies the requirement of one (1) covered parking space per dwelling unit. In addition, each unit is shown to include one (1) outdoor parking space measuring 290 square feet (14.5' x 20') located directly in front of the garage.

Pursuant to Section 18.02(G)(12), a minimum of two (2) parking spaces are required per dwelling unit. Based on the proposed layout, this requirement has been met.

Items to be Addressed: None.

SITE ACCESS AND CIRCULATION

The proposed townhomes have a single proposed access drive from Edgebrook Drive which leads to a shared driveway area. Emergency and refuse vehicle circulation routes have not been provided. However, the Howell Township Area Fire Department approved the submitted drawing on March 5, 2025.

Section 7.07.C of the Howell Township Zoning Ordinance provides requirements for access from multi-family developments. We believe that the language intends to say that access must be taken directly from a major arterial road except when the frontage of the side road is directly connected to the major arterial road. It is a best practice to direct individual developments to a side road that connect to an arterial road, thereby minimizing the curb cuts onto major arterial roads. This proposal does that.

The applicant has made revisions which have modestly reduced the paved area on site as requested.

Items to be Addressed: None.

NATURAL FEATURES

The majority of the site is foliage with minimal topography change throughout.

Sheet 1 depicts four (4) eight (8") inch scrub oak trees and one (1) twelve (12") inch scrub oak tree that are within the footprint of the proposed building. Seven (7) ten (10") inch pine trees, six (6) twelve (12") inch pine trees, and four (4) twelve (12") box elder's are shown at the Northern boundary line abutting the existing residential zoning.

Sheet 1 has been updated to reflect existing natural features of the site including a the location of existing trees which have a diameter at breast height of six (6) inches or more and uses of adjacent properties.

The Department of Environment, Great Lakes, and Energy (EGLE) Wetlands Map Viewer depict a small area of the site as wetlands. Plans have been updated to depict the National Wetlands Inventory Mapping. No wetlands fall within the proposed work areas for the site.

Items to be Addressed: None.

LANDSCAPING

The applicant has submitted a landscape plan on Sheet 3. Thirteen (13) existing pine trees are proposed to remain along the northern property line. In addition, the applicant has proposed one (1) species of deciduous/evergreen tree and one (1) species of ornamental tree. Per Section 28.03.B.2 of the Zoning Ordinance, a minimum of three (3) species is required when 31 to 60 trees are to be planted. The inclusion of existing trees satisfies this diversity requirement.

It is noted that the applicant has proposed dwarf fountain grass (*Pennisetum alopecuroides* 'Hameln') to meet a portion of the shrub requirement. However, consultation with our staff landscape architect confirms that this species is classified as a perennial and therefore does not qualify as a shrub for ordinance compliance purposes.

In accordance with Section 28.04, the following minimum plant sizes must be met:

- Deciduous shade trees: 2.5-inch caliper measured 12 inches above grade
- Deciduous ornamental trees: 1.5-inch caliper measured 6 inches above grade
- Evergreen trees: minimum height of 6 feet and minimum spread of 3 feet at planting
- Shrubs: minimum height of 2 feet, or a minimum spread of 24 inches for low-growing shrubs

The applicant should revise the landscape plan to clearly indicate that all proposed plantings meet these minimum size standards.

Deficiencies are noted in **Table 3**.

Table 3. Landscape Requirements

Landscaped Area	Requirement	Factor	Required	Provided	Complies
General Site Landscaping	2 deciduous or evergreen tree per dwelling unit	4 units * 2 trees = 8	8 trees	17 trees	Complies
	4 shrubs per dwelling unit	4 units * 4 shrubs = 16	16 shrubs	0 shrubs	Does not comply
W Grand River Ave	1 deciduous or evergreen tree per 40 linear feet	475.15 feet / 40 feet = 11.88	12 trees	12 trees	Complies
	1 ornamental tree per 100 linear feet	475.15 feet / 100 feet = 4.75	5 trees	1 tree	Does not comply
	Min. of 8 shrubs per every 40 linear feet	(475.15 feet / 40 feet) * 8 shrubs = 95.03	95 shrubs	3 shrubs	Does not comply
Edgebrook Dr	1 deciduous or evergreen tree per 40 linear feet	272.87 feet / 40 feet = 6.82	7 trees	7 trees	Complies
	1 ornamental tree per 100 linear feet	22.87 feet / 100 feet = 2.73	3 trees	3 trees	Complies
	Min. of 8 shrubs per every 40 linear feet	(272.87 feet / 40 feet) * 8 shrubs = 54.57	55 shrubs	47 shrubs	Does not comply

Table 4. Foundation Plantings

West side of structure	1 ornamental tree per 35 linear feet	80 feet / 35 feet = 2.28	3 trees	1 tree	Does not comply
	5 shrubs per 35 linear feet	(80 feet / 35 feet) * 5 shrubs = 11.42	12 shrubs	12 shrubs	Complies
East side of structure	1 ornamental tree per 35 linear feet	70 feet / 35 feet = 2 trees	2 trees	2 trees	Complies
	5 shrubs per 35 linear feet	(70 feet / 35 feet) * 5 shrubs = 10	10 shrubs	14 shrubs	Complies

Figure 3. depicts counts for each requirement.

Section 28.07 allows for the Planning Commission to exercise discretion in determining whether a modification in landscaping requirements is appropriate. The Planning Commission shall consider whether the following conditions exist:

1. Topographic features or other unique features of the site create conditions such that strict application of the landscape regulations would result in a less effective screen than an alternative landscape design made in consideration of topographic features.
2. Parking, vehicular circulation, or land use is such that required landscaping would not enhance the site or result in the desired landscaping effect.
3. The public benefit intended by these landscaping regulations could be better achieved with a plan that varies from the strict requirements of this Article and Ordinance in general.

Based on our review, we do not recommend modifications of this type for the subject site. The majority of landscaping deficiencies are located along West Grand River Avenue, a high-traffic roadway where compliance with the required landscaping is especially important. In our opinion, full implementation of the required plantings will contribute to a natural buffer, provide noise reduction, and enhance the overall aesthetic of the site.

The Planning Commission may also consider existing elements in the landscape design as detailed in Section 28.06 which states the Commission may permit substitution of such plant material in place of the requirements, provided such substitution is in keeping with the spirit and intent of this Article and Zoning Ordinance in general.

We believe that this would be appropriate for the landscaping requirement along Edgebrook Drive where nine (9) existing pine trees are located as they lend to additional screening near the street as well as provide additional screening to northern property line contributing to a natural buffer of the directly abutting lots which are utilized as single family residences.

Should the Planning Commission choose to approve any deviations or substitutions, we recommend that the exact modifications and conditions be clearly documented in the motion for clarity and enforcement purposes.

Items to be Addressed: 1) Planning Commission to determine if modifications per Section 28.07 are appropriate and, if so, specify approved deviations. 2) Planning Commission to determine if substitutions of existing plant materials per Section 28.06 are appropriate and, if so, specify approved modifications. 3) Provide 2 additional ornamental trees on the west side of the structure. 4) Provide 8 additional shrubs along Edgebrook Drive. 5) Provide 4 additional ornamental trees along W Grand River Ave. 6) Provide 92 additional shrubs along W Grand River Ave.

LIGHTING

A lighting plan has been provided for the site on Sheet 2. All exterior lighting is proposed to be 100 watts and will dissipate before property lines and are set from dusk to dawn. The eight (8) wall lights are to be mounted at seven (7') feet.

Items to be Addressed: None.

SIGNS

The submitted site plan does not indicate any signage proposed on the site.

If added, signs will require a separate permit from the Zoning Administrator. A sign application must be filed with the Zoning Administrator, at which time the zoning administrator will determine if the signs meet the requirements of the ordinance.

Items to be Addressed: None.

FLOOR PLAN AND ELEVATIONS

Floor plans and elevations for the proposed townhomes have been provided on Sheets A-1 through A-6 and on Sheet FB-1. Each unit offers three (3) bedrooms and an attached garage. Privacy walls are proposed between units.

Items to be Addressed: None.

TRASH ENCLOSURE

Sheet 1 notes that garbage service will be provided by individual garbage carts that are to be stored inside each garage. Garbage pickup is planned for one (1) time per week and carts are to be placed along the curbside of Edgebrook Drive for pick up.

Items to be Addressed: None.

RECOMMENDATIONS

The following items shall be required before final site plan approval is granted:

The Planning Commission should determine the following:

1. Whether a modification in landscaping requirements Per Section 28.07 is appropriate in consideration with the following conditions:

- a) Topographic features or other unique features of the site create conditions such that strict application of the landscape regulations would result in a less effective screen than an alternative landscape design made in consideration of topographic features.
 - b) Parking, vehicular circulation, or land use is such that required landscaping would not enhance the site or result in the desired landscaping effect.
 - c) The public benefit intended by these landscaping regulations could be better achieved with a plan that varies from the strict requirements of this Article and Ordinance in general.
2. Whether a modification per Section 28.06 is appropriate to allow existing plantings along Edgebrook Drive to satisfy landscaping requirements.

If the Planning Commission does not waive any planting requirements, final site plan should be conditioned upon the following:

1. Provide 2 additional ornamental trees on the west side of the structure.
2. Provide 8 additional shrubs along Edgebrook Drive.
3. Provide 4 additional ornamental trees along W Grand River Ave.
4. Provide 92 additional shrubs along W Grand River Ave.

Respectfully submitted,



CARLISLE/WORTMAN ASSOC., INC.
Paul Montagno, AICP
Principal



CARLISLE/WORTMAN ASSOC., INC.
Grayson Moore
Community Planner

308-2501

cc: Joanathan Hohenstein, Township Zoning Administrator
 Carol Makushik, Township Deputy Zoning Administrator
 Adam Jacqmain, Township Engineer

Howell Township Treasurer

From: Ken Recker <KRecker@livgov.com>
Sent: Thursday, April 24, 2025 9:15 AM
To: Jacqmain, Adam C.
Cc: Patrick Keough; Howell Township Treasurer
Subject: RE: River landing Parcel 4706-27-300-030

Adam,
No problem. That's changed quite a bit from when I first saw it.

I'd say if there's no agreement between the River Downs HOA and Mitch, something will need to be done to manage stormwater prior to discharge to the detention basin. Unless its been fixed, I'm not even sure the existing basin has a restricted outlet (last time I saw it, it was washed out).

If the basin's still needs to be fixed, maybe there's a possibility Mitch could work with the HOA to facilitate the fix in lieu of having a separate stormwater basin (which might effectively be a forebay discharging to the existing basin).

Kenneth E. Recker, II, P.E.
Chief Deputy Drain Commissioner
Livingston County, Michigan
Ph. 517-546-0040

From: Jacqmain, Adam C. <adamj@spicergroup.com>
Sent: Thursday, April 24, 2025 8:51 AM
To: Ken Recker <KRecker@livgov.com>
Subject: [EXT] River landing Parcel 4706-27-300-030

"The e-mail below is from an external source. Please do not open attachments or click links from an unknown or suspicious origin."

Good Morning Ken,

Sorry to bother you again, but I'm reviewing the preliminary site plan for River Landing at the corner of Edgewood Drive and Grand River Avenue (Parcel 4706-27-300-030) and I'd appreciate your input.

From what I can see, the site generally sheet flows toward an existing pond, which is partially encircled by the parcel and discharges directly to the Shiawassee River Drain. The project doesn't appear to significantly alter existing drainage patterns, but it does introduce approximately 9,000 square feet of new impervious surface.

Currently, no stormwater storage is proposed. Given that, would you prefer they incorporate on-site storage prior to discharging runoff to the pond

Thanks,

Adam Jacqmain | Design Engineer I
Spicer Group, Inc.
Direct: 989-598-6196

Howell Township Treasurer

From: Ken Recker <KRecker@livgov.com>
Sent: Wednesday, June 25, 2025 9:02 AM
To: Mike Chapman
Cc: Howell Township Treasurer
Subject: RE: Mitch Harris

Thanks. Have a good rest of the week!

From: Mike Chapman [REDACTED]
Sent: Tuesday, June 24, 2025 6:32 PM
To: Ken Recker <KRecker@livgov.com>
Subject: [EXT] RE: Mitch Harris

"The e-mail below is from an external source. Please do not open attachments or click links from an unknown or suspicious origin."

Hi Ken,

I was able to talk to him today. I've asked Sentry to figure out what the next steps should be.

Thanks!

From: Ken Recker <KRecker@livgov.com>
Sent: Tuesday, June 24, 2025 5:41 PM
To: Mike Chapman [REDACTED]
Subject: Mitch Harris

Mike,
Mitch called me today and mentioned he's trying to get ahold of you regarding using the modified detention basin.

He sounded willing to clear debris to allow for clear vision at the Grand River entrance.

His mobile no is [REDACTED]

Let me know if you need anything from me in regards to addressing HOA concerns regarding the restored basin.

Kenneth E. Recker, II, P.E.
Chief Deputy Drain Commissioner
Livingston County, Michigan
Ph. 517-546-0040