

May 12, 2021

To: Jonesfield Township Planning Commission
From: Alan Bean, AICP – Spicer Group, Project Planner (alanb@spicergroup.com)
Jennifer Stewart, AICP – Spicer Group, Community Planner (jennifer.stewart@spicergroup.com)
RE: Review of DTE's Meridian Wind Park Special Land Use Permit Application – Site Plan Review

The following reports are a section by section review of the Meridian Wind Park in Jonesfield Township. The project proposes 26 WTG Tower locations and a substation. The proposed improvements are located in Sections 1 – 4, 9 – 14, 16, 21 – 22, and 24.

This project is before the Planning Commission as a Special Land Use permit request. There are two steps in the Special Land Use process. In November of 2020, the Planning Commission completed the first step by conditionally approving the special land use permit. The site plan review is step two of the process. The Planning Commission will hold the site plan review for this project Tuesday, May 25, 2020 at 6 PM.

Review Standards:

For the purpose of this review, participation status was determined by the Special Land Use Application and Appendix A of the application; the parcels with only participation agreements are not considered. The applicant has identified those parcels under participation agreements, and has indicated they consider these to be part of the application. Properties that have participation agreements but were not included in the Special Land Use Permit are not included in this request.

A summary of how the proposed wind turbines comply with Section 612(l) of the Jonesfield Township Zoning Ordinance requirements and DTE's design parameters is provided in the following reports. Below are some additional considerations for the Planning Commission.

Additional Considerations for Review:

- The applicant has submitted an updated crane path map showing the location of the proposed crane path for construction. The path is located completely on participating property or property with a signed lease agreement.
- The applicant has submitted a complaint resolution process.
- The applicant has submitted a transportation/haul route map.

Remaining Items for DTE to Complete:

- The applicant has submitted permit applications to the Saginaw County Road Commission and Saginaw County Public Works Commissioner. Those agencies are responsible for any improvements within their rights-of-way. Building permits shall not be granted prior to approvals from the Saginaw County Department of Public Works.
- The applicant is required to seek any applicable permits related to the construction of these turbines and ancillary facilities from the EGLE.

- The applicant has not received their Determination of No Hazard (DNH) approval for the proposed turbine locations from the Federal Aviation Administration (FAA). DNH's are a preliminary step for approval of the aircraft detection lighting system (ADLS). At this time, it is unclear when the FAA will complete the DNH review. Building permits shall not be issued prior to approval from the FAA.
- Prior to construction, the applicant will need to have an approved decommissioning agreement and bond/surety on file with the Township. The Township Board is responsible for final approval on the decommissioning agreement and bond/surety.
- Prior to construction, the applicant needs to have an approved road use agreement on file with County Road Commission
- Prior to construction, the applicant needs to have an approved drain use agreement on file with Saginaw County Public Works Commissioner.
- Prior to construction, the applicant will need to work with local emergency services and have a emergency response plan on file. In addition, the applicant needs to provide training to local emergency services departments.

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JONESFIELD TOWNSHIP – SECTION 1

The comments below are based on conformance with the Jonesfield Township Zoning Ordinance and the approved November 18, 2020 resolution conditionally granting a special land use permit that incorporates DTE’s design parameters, for Turbines T-83 and T-84 in Section 1.

Review Standards:

For the purpose of this review, participation status was determined by the Special Land Use Application and Appendix A of the application; the parcels with only participation agreements are not considered. The applicant has identified those parcels under participation agreements, and has indicated they consider these to be part of the application. Properties that have participation agreements but were not included in the Special Land Use Permit are not included in this request.

A summary of how the proposed wind turbines comply with Section 612(I) of the Jonesfield Township Zoning Ordinance requirements and DTE’s design parameters is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.



**Table 1 - Township Zoning Standards
Section 1**

Standards	Zoning Requirements	T-83 (499')	T-84 (499')
Minimum Parcel Size	5 acres per WTG tower	55 acres 88 acres	88 acres 80 acres
Minimum Parcel Width	150 feet	820' 1,320'	1,320' 1,320'
Setback from Property Lines	(499')* 1.0x Tip Height**	0' *** 0' ***	0' *** 171' *** 0' *** 171' ***
Setback from Road Right-of-Way	(499')* 1.0x Tip Height**	1,445'	2,450'
Sound	60 dBA	NRO Mode 105	NRO Mode 105

*Based off the GE turbine with a tip height of 499'. The Vestas turbine model has a tip height of 492'.

**Tip Height is defined as the distance between the ground and the highest point of the WTGs.

***On October 29, 2020, the ZBA granted variance(s) for various setback(s) from property lines.

A summary of how the proposed wind turbines comply with the design parameters proposed by DTE in the May 15, 2019 design parameters letter and incorporated as requirements detailed in the November 18 SUP resolution is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 2 - DTE Design Parameters Section 1			
Standards	Requirements	T-83 (499')	T-84 (499')
Turbine Spacing	1,000 Feet Apart	1,535'	1,535'
Turbine Height*	500 Feet	499'	499'
Setback from Public Roads	(748.5)* 1.5x Tip Height**	1,445'	2,450'
Setback from Non-participating Parcels	(748.5)* 1.5x Tip Height	815'	990'
Setback from an Inhabited Structure on a Non-Participating Parcel***	1,320 Feet	1,445'	1,860'
Setback from an Inhabited Structure on a Participating Parcel***	1,000 Feet	Greater than 1,000'	Greater than 1,000'
Setback from a Village	1,320 Feet	4.45 miles	4.15 miles
Shadow Flicker	30 Hours per Year	30 hours – <i>See comment below</i>	30 hours – <i>See comment below</i>
Sound at Non-Participating Property Lines	55 dBA	NRO Mode 105	NRO Mode 105
Sound at Non-Participating Inhabited Structures	45 dBA	NRO Mode 105 – <i>See comment below</i>	NRO Mode 105 – <i>See comment below</i>
*Based off the GE turbine with a tip height of 499'. The Vestas turbine model has a tip height of 492'.			
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.			
***Inhabited Structure defined as residence, school, hospital, church or public library, or any other occupied buildings.			

Additional Considerations for Review:

Shadow flicker – In the Shadow Flicker Analysis, DTE has indicated that turbines 83 and 84 will be curtailed so as not to contribute more than 30 hours of shadow flicker per year to the surrounding homes. This aligns with the May 15, 2019 design parameters letter. For further details on curtailment, see DTE’s Appendix A of the Shadow Flicker Analysis dated April 20, 2021.

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Sound at Non-Participating Inhabited Structures – Receptor 1410 (non-participating home) north of Turbines 83 and 84 is indicated to receive 45 dBA in Table 4 of the sound model. However on Figure 9, the receptor is clearly located inside the 45 dBA contour line. The applicant needs to clarify this discrepancy. If the receptor exceeds the 45 dBA limit, the applicant shall implement additional noise reduction measures.

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JONESFIELD TOWNSHIP – SECTION 2

The comments below are based on conformance with the Jonesfield Township Zoning Ordinance and the approved November 18, 2020 resolution conditionally granting a special land use permit resolution that incorporates DTE’s design parameters, for Turbines T-79 and T-80 in Section 2.

Review Standards:

For the purpose of this review, participation status was determined by the Special Land Use Application and Appendix A of the application; the parcels with only participation agreements are not considered. The applicant has identified those parcels under participation agreements, and has indicated they consider these to be part of the application. Properties that have participation agreements but were not included in the Special Land Use Permit are not included in this request.

A summary of how the proposed wind turbines comply with Section 612(l) of the Jonesfield Township Zoning Ordinance requirements and DTE’s design parameters is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.



**Table 1 - Township Zoning Standards
Section 2**

Standards	Zoning Requirements	T-79 (499')	T-80 (499')
Minimum Parcel Size	5 acres per WTG tower proposed	76 acres	77 acres
Minimum Parcel Width	150 feet	1,320'	1,170'
Setback from Property Lines	(499')* 1.0x Tip Height**	75' *** 247' *** 257' ***	408' ***
Setback from Road Right-of-Way	(499')* 1.0x Tip Height**	2,345'	1,830'
Sound	60 dBA	NRO Mode 105	NRO Mode 105

*Based off the GE turbine with a tip height of 499'. The Vestas turbine model has a tip height of 492'.

**Tip Height is defined as the distance between the ground and the highest point of the WTGs.

***On October 29, 2020, the ZBA granted variance(s) for various setback(s) from property lines.

A summary of how the proposed wind turbines comply with the design parameters proposed by DTE in the May 15, 2019 design parameters letter and incorporated as requirements detailed in the November 18 SUP resolution is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 2 - DTE Design Parameters Section 2			
Standards	Requirements	T-79 (499')	T-80 (499')
Turbine Spacing	1,000 Feet Apart	2,240'	2,205'
Turbine Height*	500 Feet	499'	499'
Setback from Public Roads	(748.5)* 1.5x Tip Height**	2,345'	1,830'
Setback from Non-participating Parcels	(748.5)* 1.5x Tip Height	905'	765'
Setback from an Inhabited Structure on a Non-Participating Parcel***	1,320 Feet	2,265'	1,715'
Setback from an Inhabited Structure on a Participating Parcel***	1,000 Feet	Greater than 1,000'	Greater than 1,000'
Setback from a Village	1,320 Feet	3.77 miles	4.19 miles
Shadow Flicker	30 Hours per Year	30 hours – <i>See comment below</i>	30 hours – <i>See comment below</i>
Sound at Non-Participating Property Lines	55 dBA	NRO Mode 105	NRO Mode 105
Sound at Non-Participating Inhabited Structures	45 dBA	NRO Mode 105	NRO Mode 105
*Based off the GE turbine with a tip height of 499'. The Vestas turbine model has a tip height of 492'.			
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.			
***Inhabited Structure defined as residence, school, hospital, church or public library, or any other occupied buildings.			

Additional Considerations for Review:

Shadow flicker – In the Shadow Flicker Analysis, DTE has indicated that turbines 79 and 80 will be curtailed so as not to contribute more than 30 hours of shadow flicker per year to the surrounding homes. This aligns with the May 15, 2019 design parameters letter. For further details on curtailment, see DTE’s Appendix A of the Shadow Flicker Analysis dated April 20, 2021.

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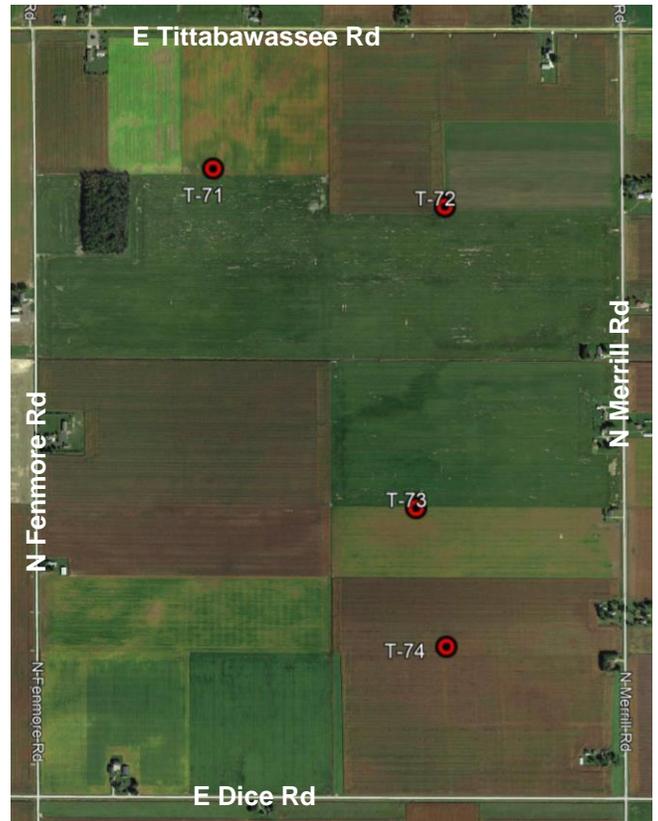
JONESFIELD TOWNSHIP – SECTION 3

The comments below are based on conformance with the Jonesfield Township Zoning Ordinance and the approved November 18, 2020 resolution conditionally granting a special land use permit resolution that incorporates DTE’s design parameters, for Turbines T-71, T-72, T-73, and T-74 in Section 3.

Review Standards:

For the purpose of this review, participation status was determined by the Special Land Use Application and Appendix A of the application; the parcels with only participation agreements are not considered. The applicant has identified those parcels under participation agreements, and has indicated they consider these to be part of the application. Properties that have participation agreements but were not included in the Special Land Use Permit are not included in this request.

A summary of how the proposed wind turbines comply with Section 612(I) of the Jonesfield Township Zoning Ordinance requirements and DTE’s design parameters is provided below. Items highlighted **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.



**Table 1 - Township Zoning Standards
Section 3**

Standards	Zoning Requirements	T-71 (499')	T-72 (499')	T-73 (499')	T-74 (499')
Minimum Parcel Size	5 acres per WTG tower proposed	40 acres	30 acres 70 acres	78 acres 79 acres	79 acres
Minimum Parcel Width	150 feet	1,320'	830' 1,660'	1,320' 1,320'	1,320'
Setback from Property Lines	(499')* 1.0x Tip Height**	72' *** 293' ***	0' *** 74' *** 0' *** 74' ***	0' *** 0' ***	69' ***
Setback from Road Right-of-Way	(499')* 1.0x Tip Height**	1,210'	1,555'	1,840'	1,350'
Sound	60 dBA	NRO Mode 105	NRO Mode 105	NRO Mode 105	NRO Mode 105

*Based off the GE turbine with a tip height of 499'. The Vestas turbine model has a tip height of 492'.

**Tip Height is defined as the distance between the ground and the highest point of the WTGs.

***On October 29, 2020, the ZBA granted variance(s) for various setback(s) from property lines.

A summary of how the proposed wind turbines comply with the design parameters proposed by DTE in the May 15, 2019 design parameters letter and incorporated as requirements detailed in the November 18 SUP resolution is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 2 - DTE Design Parameters Section 3					
Standards	Requirements	T-71 (499')	T-72 (499')	T-73 (499')	T-74 (499')
Turbine Spacing	1,000 Feet Apart	2,110'	2,110'	1,280'	1,280'
Turbine Height*	500 Feet	499'	499'	499'	499'
Setback from Public Roads	(748.5)* 1.5x Tip Height**	1,210'	1,555'	1,840'	1,350'
Setback from Non-participating Parcels	(748.5)* 1.5x Tip Height	765'	1,585'	780'	1,050'
Setback from an Inhabited Structure on a Non-Participating Parcel***	1,320 Feet	1,355'	1,660'	1,725'	1,455'
Setback from an Inhabited Structure on a Participating Parcel***	1,000 Feet	Greater than 1,000'	Greater than 1,000'	Greater than 1,000'	Greater than 1,000'
Setback from a Village	1,320 Feet	4.34 miles	4.27 miles	3.76 miles	3.52 miles
Shadow Flicker	30 Hours per Year	30 hours – <i>See comment below</i>			
Sound at Non-Participating Property Lines	55 dBA	NRO Mode 105	NRO Mode 105	NRO Mode 105	NRO Mode 105
Sound at Non-Participating Inhabited Structures	45 dBA	NRO Mode 105	NRO Mode 105	NRO Mode 105	NRO Mode 105
*Based off the GE turbine with a tip height of 499'. The Vestas turbine model has a tip height of 492'.					
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.					
***Inhabited Structure defined as residence, school, hospital, church or public library, or any other occupied buildings.					

Additional Considerations for Review:

Shadow flicker – In the Shadow Flicker Analysis, DTE has indicated that turbines 71, 72, 73, and 74 will be curtailed so as not to contribute more than 30 hours of shadow flicker per year to the surrounding homes. This aligns with the May 15, 2019 design parameters letter. For further details on curtailment, see DTE's Appendix A of the Shadow Flicker Analysis dated April 20, 2021.

The proposed access roads for turbines 71, 73, and 74 are all adjacent to non-participating properties. Section 907(4)(E) of the Zoning Ordinance states any improvements shall maintain stormwater run-off at a pre-development rate and should not have any off-site impacts. DTE has submitted a Hydrology Memo that addresses these specific turbine sites. Spicer recommends that the approved access roads are designed so that any additional run-off from the project is directed away from the adjacent non-participating properties.

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JONESFIELD TOWNSHIP – SECTION 4

The comments below are based on conformance with the Jonesfield Township Zoning Ordinance and the approved November 18, 2020 resolution conditionally granting a special land use permit resolution that incorporates DTE’s design parameters, for Turbines T-62, T-63, and T-64 in Section 4.

Review Standards:

For the purpose of this review, participation status was determined by the Special Land Use Application and Appendix A of the application; the parcels with only participation agreements are not considered. The applicant has identified those parcels under participation agreements, and has indicated they consider these to be part of the application. Properties that have participation agreements but were not included in the Special Land Use Permit are not included in this request.

A summary of how the proposed wind turbines comply with Section 612(l) of the Jonesfield Township Zoning Ordinance requirements and DTE’s design parameters is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.



**Table 1 - Township Zoning Standards
Section 4**

Standards	Zoning Requirements	T-62 (499')	T-63 (499')	T-64 (499')
Minimum Parcel Size	5 acres per WTG tower proposed	95 acres 74 acres	74 acres 97 acres	80 acres
Minimum Parcel Width	150 feet	1,620' 1,280'	1,280' 1,465'	1,320'
Setback from Property Lines	(499')* 1.0x Tip Height**	0' *** 0' ***	0' *** 350' *** 0' *** 350' ***	Nearest property line is: 550'
Setback from Road Right-of-Way	(499')* 1.0x Tip Height**	1,100'	2,465'	1,585'
Sound	60 dBA	NRO Mode 105	NRO Mode 105	NRO Mode 105

*Based off the GE turbine with a tip height of 499'. The Vestas turbine model has a tip height of 492'.

**Tip Height is defined as the distance between the ground and the highest point of the WTGs.

***On October 29, 2020, the ZBA granted variance(s) for various setback(s) from property lines.

A summary of how the proposed wind turbines comply with the design parameters proposed by DTE in the May 15, 2019 design parameters letter and incorporated as requirements detailed in the November 18 SUP resolution is provided below. Items highlighted in **green** comply with the zoning ordinance. Items in **pink** need further consideration.

Table 2 - DTE Design Parameters Section 4				
Standards	Requirements	T-62 (499')	T-63 (499')	T-64 (499')
Turbine Spacing	1,000 Feet Apart	1,680'	1,390'	1,390'
Turbine Height*	500 Feet	499'	499'	499'
Setback from Public Roads	(748.5)* 1.5x Tip Height**	1,100'	2,465'	1,585'
Setback from Non-participating Parcels	(748.5)* 1.5x Tip Height	1,130'	1,000'	765'
Setback from an Inhabited Structure on a Non-Participating Parcel***	1,320 Feet	1,540'	2,380'	1,690'
Setback from an Inhabited Structure on a Participating Parcel***	1,000 Feet	Greater than 1,000'	Greater than 1,000'	Greater than 1,000'
Setback from a Village	1,320 Feet	4.43 miles	4.21 miles	4.00 miles
Shadow Flicker	30 Hours per Year	30 hours – <i>See comment below</i>	30 hours – <i>See comment below</i>	30 hours – <i>See comment below</i>
Sound at Non-Participating Property Lines	55 dBA	NRO Mode 105	NRO Mode 105	NRO Mode 105
Sound at Non-Participating Inhabited Structures	45 dBA	NRO Mode 105	NRO Mode 105	NRO Mode 105
*Based off the GE turbine with a tip height of 499'. The Vestas turbine model has a tip height of 492'.				
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.				
***Inhabited Structure defined as residence, school, hospital, church or public library, or any other occupied buildings.				

Additional Considerations for Review:

Shadow flicker – In the Shadow Flicker Analysis, DTE has indicated that turbines 62, 63, and 64 will be curtailed so as not to contribute more than 30 hours of shadow flicker per year to the surrounding homes. This aligns with the May 15, 2019 design parameters letter. For further details on curtailment, see DTE’s Appendix A of the Shadow Flicker Analysis dated April 20, 2021.

May 12, 2021

JONESFIELD TOWNSHIP – SECTION 9

The comments below are based on conformance with the Jonesfield Township Zoning Ordinance and the approved November 18, 2020 resolution conditionally granting a special land use permit resolution that incorporates DTE’s design parameters, for Turbines T-66 and T-67 in Section 9.

Review Standards:

For the purpose of this review, participation status was determined by the Special Land Use Application and Appendix A of the application; the parcels with only participation agreements are not considered. The applicant has identified those parcels under participation agreements, and has indicated they consider these to be part of the application. Properties that have participation



agreements but were not included in the Special Land Use Permit are not included in this request.

A summary of how the proposed wind turbines comply with Section 612(l) of the Jonesfield Township Zoning Ordinance requirements and DTE’s design parameters is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 1 - Township Zoning Standards Section 9			
Standards	Zoning Requirements	T-66 (499')	T-67 (499')
Minimum Parcel Size	5 acres per WTG tower proposed	40 acres 38 acres	40 acres 40 acres
Minimum Parcel Width	150 feet	660' 660'	660" 660'
Setback from Property Lines	(499')* 1.0x Tip Height**	0' *** 0' ***	0' *** 0' ***
Setback from Road Right-of-Way	(499')* 1.0x Tip Height**	1,805'	1,590'
Sound	60 dBA	NRO Mode 105	NRO Mode 105
*Based off the GE turbine with a tip height of 499'. The Vestas turbine model has a tip height of 492'.			
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.			
***On October 29, 2020, the ZBA granted variance(s) for various setback(s) from property lines.			

A summary of how the proposed wind turbines comply with the design parameters proposed by DTE in the May 15, 2019 design parameters letter and incorporated as requirements detailed in the November 18 SUP resolution is provided below. Items highlighted in **green** comply with the zoning ordinance. Items in **pink** need further consideration.

Table 2 - DTE Design Parameters Section 9			
Standards	Requirements	T-66 (499')	T-67 (499')
Turbine Spacing	1,000 Feet Apart	1,345'	1,345'
Turbine Height*	500 Feet	499'	499'
Setback from Public Roads	(748.5)* 1.5x Tip Height**	1,805'	1,590'
Setback from Non-participating Parcels	(748.5)* 1.5x Tip Height	815'	1,035'
Setback from an Inhabited Structure on a Non-Participating Parcel***	1,320 Feet	1,710'	1,845'
Setback from an Inhabited Structure on a Participating Parcel***	1,000 Feet	Greater than 1,000'	Greater than 1,000'
Setback from a Village	1,320 Feet	3.02 miles	2.75 miles
Shadow Flicker	30 Hours per Year	30 hours – <i>See comment below</i>	30 hours – <i>See comment below</i>
Sound at Non-Participating Property Lines	55 dBA	NRO Mode 105	NRO Mode 105
Sound at Non-Participating Inhabited Structures	45 dBA	NRO Mode 105	NRO Mode 105
*Based off the GE turbine with a tip height of 499'. The Vestas turbine model has a tip height of 492'.			
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.			
***Inhabited Structure defined as residence, school, hospital, church or public library, or any other occupied buildings.			

Additional Considerations for Review:

Shadow flicker – In the Shadow Flicker Analysis, DTE has indicated that turbines 66 and 67 will be curtailed so as not to contribute more than 30 hours of shadow flicker per year to the surrounding homes. This aligns with the May 15, 2019 design parameters letter. For further details on curtailment, see DTE’s Appendix A of the Shadow Flicker Analysis dated April 20, 2021.

May 5, 2021

JONESFIELD TOWNSHIP – SECTION 10

The comments below are based on conformance with the Jonesfield Township Zoning Ordinance and the approved November 18, 2020 resolution conditionally granting a special land use permit resolution that incorporates DTE’s design parameters, for Turbines T-75 and T-76 in Section 10.

Review Standards:

For the purpose of this review, participation status was determined by the Special Land Use Application and Appendix A of the application; the parcels with only participation agreements are not considered. The applicant has identified those parcels under participation agreements, and has indicated they consider these to be part of the application. Properties that have participation agreements but were not included in the Special Land Use Permit are not included in this request.



A summary of how the proposed wind turbines comply with Section 612(l) of the Jonesfield Township Zoning Ordinance requirements and DTE’s design parameters is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 1 - Township Zoning Standards Section 10			
Standards	Zoning Requirements	T-75 (499')	T-76 (499')
Minimum Parcel Size	5 acres per WTG tower proposed	79 acres	77 acres 78 acres
Minimum Parcel Width	150 feet	1,320' 1,320'	1,320'
Setback from Property Lines	(499')* 1.0x Tip Height**	0' *** 0' ***	108' ***
Setback from Road Right-of-Way	(499')* 1.0x Tip Height**	1,290'	1,550'
Sound	60 dBA	NRO Mode 105	NRO Mode 105
*Based off the GE turbine with a tip height of 499'. The Vestas turbine model has a tip height of 492'.			
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.			
***On October 29, 2020, the ZBA granted variance(s) for various setback(s) from property lines.			

A summary of how the proposed wind turbines comply with the design parameters proposed by DTE in the May 15, 2019 design parameters letter and incorporated as requirements detailed in the November 18 SUP resolution is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 2 - DTE Design Parameters Section 10			
Standards	Requirements	T-75 (499')	T-76 (499')
Turbine Spacing	1,000 Feet Apart	2,475'	2,475'
Turbine Height*	500 Feet	499'	499'
Setback from Public Roads	(748.5)* 1.5x Tip Height**	1,290'	1,550'
Setback from Non-participating Parcels	(748.5)* 1.5x Tip Height	765'	770'
Setback from an Inhabited Structure on a Non-Participating Parcel***	1,320 Feet	1,415'	1,490'
Setback from an Inhabited Structure on a Participating Parcel***	1,000 Feet	Greater than 1,000'	Greater than 1,000'
Setback from a Village	1,320 Feet	2.52 miles	2.96 miles
Shadow Flicker	30 Hours per Year	30 hours – <i>See comment below</i>	30 hours – <i>See comment below</i>
Sound at Non-Participating Property Lines	55 dBA	NRO Mode 105	NRO Mode 105
Sound at Non-Participating Inhabited Structures	45 dBA	NRO Mode 105	NRO Mode 105
*Based off the GE turbine with a tip height of 499'. The Vestas turbine model has a tip height of 492'.			
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.			
***Inhabited Structure defined as residence, school, hospital, church or public library, or any other occupied buildings.			

Additional Considerations for Review:

Shadow flicker – In the Shadow Flicker Analysis, DTE has indicated that turbines 75 and 76 will be curtailed so as not to contribute more than 30 hours of shadow flicker per year to the surrounding homes. This aligns with the May 15, 2019 design parameters letter. For further details on curtailment, see DTE’s Appendix A of the Shadow Flicker Analysis dated April 20, 2021.

May 5, 2021

JONESFIELD TOWNSHIP – SECTION 10

The comments below are based on conformance with the Jonesfield Township Zoning Ordinance and the approved November 18, 2020 resolution conditionally granting a special land use permit that incorporates DTE's design parameters, for the proposed substation.

Review Standards:

A summary of how the proposed substation complies with Section 612(l), Section 504.1, Chapter 7, and Section 907 of the Jonesfield Township Zoning Ordinance requirements is provided below.

Location/Property Information:

- Section 10 – Northeast corner
- Parcel #: 17-12-1-10-1001-003
- Property Owner: DTE Electric Company – Parcel was split from larger Laurenz parcel.
- Zoning: A-1 General Agriculture



Considerations for Review:

Setback Requirements: The proposed improvements meet the setback requirements of the A-1 Agriculture zoning district.

Driveway and Parking: The applicant is proposing an access drive off Dice Road. The access drive and proposed parking meet the zoning ordinance standards.

Fence: The proposed site plans indicates an 8' tall chain link fence with barbed wire. The fence meets the Zoning Ordinance standards.

Drainage: The recommendations for stormwater and drainage on the site are addressed in the site plans. The applicant plans to hydroseed the site after construction. They've also proposed a berm along the southern property line to mitigate off-site drainage impacts.

Temporary Construction Phases: The applicant is proposing a temporary topsoil stockpile with a silt fence and a concrete washout basin during construction. The concrete washout basin has been designed using best practices.

Questions:

1. What is the long-term plan for the O&M Staging Area? Is the proposed parking in the O&M Staging area permanent?
2. What is the long term plan for the concrete washout basin?
3. Signage: The applicant has not proposed any signage. Do they intend to post emergency signage or general identification signage on the site?
4. Lighting: The applicant does not show any lighting on the site plans. Do they intend to have lighting on site?
5. Access Drive: Does the applicant have an approved permit on file with the Road Commission for the proposed access drive?

Recommendation:

Site plan meets the criteria of the Zoning Ordinance. The applicant is required to seek the applicable permits related to the construction of this substation site from the following agencies: Saginaw County Road Commission, Saginaw County Public Works Commissioner, and/or the EGLE.

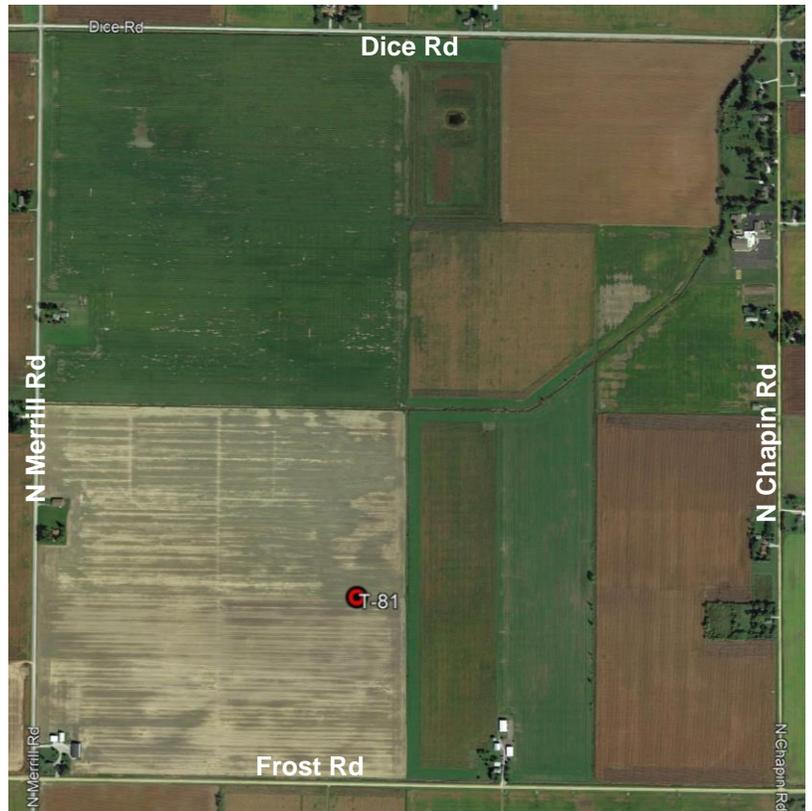
May 12, 2021

JONESFIELD TOWNSHIP – SECTION 11

The comments below are based on conformance with the Jonesfield Township Zoning Ordinance and the approved November 18, 2020 resolution conditionally granting a special land use permit resolution that incorporates DTE’s design parameters, for Turbine T-81 in Section 11.

Review Standards:

For the purpose of this review, participation status was determined by the Special Land Use Application and Appendix A of the application; the parcels with only participation agreements are not considered. The applicant has identified those parcels under participation agreements, and has indicated they consider these to be part of the application. Properties that have participation agreements but were not included in the Special Land Use Permit are not included in this request.



A summary of how the proposed wind turbine complies with Section 612(l) of the Jonesfield Township Zoning Ordinance requirements and DTE’s design parameters is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 1 - Township Zoning Standards Section 11		
Standards	Zoning Requirements	T-81 (492')
Minimum Parcel Size	5 acres per WTG tower proposed	80 acres 80 acres
Minimum Parcel Width	150 feet	1,320' 1,320'
Setback from Property Lines	(492')* 1.0x Tip Height**	0' *** 345' *** 0' *** 345' ***
Setback from Road Right-of-Way	(492')* 1.0x Tip Height**	1,300'
Sound	60 dBA	Normal Operation
*Based off the GE turbine with a tip height of 499'. The Vestas turbine model has a tip height of 492'.		
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.		
***On October 29, 2020, the ZBA granted variance(s) for various setback(s) from property lines.		

A summary of how the proposed wind turbines comply with the design parameters proposed by DTE in the May 15, 2019 design parameters letter and incorporated as requirements detailed in the November 18 SUP resolution is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 2 - DTE Design Parameters Section 11		
Standards	Requirements	T-81 (492')
Turbine Spacing	1,000 Feet Apart	3,250'
Turbine Height*	500 Feet	492'
Setback from Public Roads	(738)* 1.5x Tip Height**	1,300'
Setback from Non-participating Parcels	(738)* 1.5x Tip Height	1,360'
Setback from an Inhabited Structure on a Non-Participating Parcel***	1,320 Feet	2,150'
Setback from an Inhabited Structure on a Participating Parcel***	1,000 Feet	Greater than 1,000'
Setback from a Village	1,320 Feet	2.50 miles
Shadow Flicker	30 Hours per Year	Meets Requirements
Sound at Non-Participating Property Lines	55 dBA	Normal Operation
Sound at Non-Participating Inhabited Structures	45 dBA	Normal Operation
*Based off the GE turbine with a tip height of 499'. The Vestas turbine model has a tip height of 492'.		
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.		
***Inhabited Structure defined as residence, school, hospital, church or public library, or any other occupied buildings.		

May 12, 2021

JONESFIELD TOWNSHIP – SECTION 13

The comments below are based on conformance with the Jonesfield Township Zoning Ordinance and the approved November 18, 2020 resolution conditionally granting a special land use permit resolution that incorporates DTE’s design parameters, for Turbines T-85 and T-86 in Section 13.

Review Standards:

For the purpose of this review, participation status was determined by the Special Land Use Application and Appendix A of the application; the parcels with only participation agreements are not considered. The applicant has identified those parcels under participation agreements, and has indicated they consider these to be part of the application. Properties that have participation agreements but were not included in the Special Land Use Permit are not included in this request.



A summary of how the proposed wind turbines comply with Section 612(l) of the Jonesfield Township Zoning Ordinance requirements and DTE parameters is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

**Table 1 - Township Zoning Standards
Section 13**

Standards	Zoning Requirements	T-85 (492')	T-86 (492')
Minimum Parcel Size	5 acres per WTG tower proposed	160 acres	80 acres 78 acres
Minimum Parcel Width	150 feet	2,640'	1,320' 1,320'
Setback from Property Lines	(492')* 1.0x Tip Height**	Nearest property line is: 925'	0' *** 327' *** 0' *** 327' ***
Setback from Road Right-of-Way	(492')* 1.0x Tip Height**	1,625'	1,635'
Sound	60 dBA	Normal Operation	Normal Operation

*Based off the Vestas turbine with a tip height of 492'. The GE turbine model has a tip height of 499'.

**Tip Height is defined as the distance between the ground and the highest point of the WTGs.

***On October 29, 2020, the ZBA granted variance(s) for various setback(s) from property lines.

A summary of how the proposed wind turbines comply with the design parameters proposed by DTE in the May 15, 2019 design parameter letter and incorporated as requirements detailed in the November 18 SUP resolution is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 2 - DTE Design Parameters Section 13			
Standards	Requirements	T-85 (492')	T-86 (492')
Turbine Spacing	1,000 Feet Apart	2,200'	2,200'
Turbine Height*	500 Feet	492'	492'
Setback from Public Roads	(738)* 1.5x Tip Height**	1,625'	1,635'
Setback from Non-participating Parcels	(738)* 1.5x Tip Height	920'	995'
Setback from an Inhabited Structure on a Non-Participating Parcel***	1,320 Feet	1,720'	1,635'
Setback from an Inhabited Structure on a Participating Parcel***	1,000 Feet	Greater than 1,000'	Greater than 1,000'
Setback from a Village	1,320 Feet	1.88 miles	2.25 miles
Shadow Flicker	30 Hours per Year	30 hours – <i>See comment below</i>	30 hours – <i>See comment below</i>
Sound at Non-Participating Property Lines	55 dBA	Normal Operation	Normal Operation
Sound at Non-Participating Inhabited Structures	45 dBA	Normal Operation	Normal Operation
*Based off the Vestas turbine with a tip height of 492'. The GE turbine model has a tip height of 499'.			
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.			
***Inhabited Structure defined as residence, school, hospital, church or public library, or any other occupied buildings.			

Additional Considerations for Review:

Shadow flicker – In the Shadow Flicker Analysis, DTE has indicated that turbines 85 and 86 will be curtailed so as not to contribute more than 30 hours of shadow flicker per year to the surrounding homes. This aligns with the May 15, 2019 design parameters letter. For further details on curtailment, see DTE’s Appendix A of the Shadow Flicker Analysis dated April 20, 2021.

May 12, 2021

JONESFIELD TOWNSHIP – SECTION 14

The comments below are based on conformance with the Jonesfield Township Zoning Ordinance and the approved November 18, 2020 resolution conditionally granting a special land use permit resolution that incorporates DTE’s design parameters, for Turbine T-82 in Section 14.

Review Standards:

For the purpose of this review, participation status was determined by the Special Land Use Application and Appendix A of the application; the parcels with only participation agreements are not considered. The applicant has identified those parcels under participation agreements, and has indicated they consider these to be part of the application. Properties that have participation agreements but were not included in the Special Land Use Permit are not included in this request.



A summary of how the proposed wind turbine complies with Section 612(l) of the Jonesfield Township Zoning Ordinance requirements and DTE’s design parameters is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 1 - Township Zoning Standards Section 14		
Standards	Zoning Requirements	T-82 (492')
Minimum Parcel Size	5 acres per WTG tower proposed	80 acres
Minimum Parcel Width	150 feet	1,320'
Setback from Property Lines	(492')* 1.0x Tip Height**	Nearest property line is: 510'
Setback from Road Right-of-Way	(492')* 1.0x Tip Height**	1,810'
Sound	60 dBA	Normal Operation
*Based off the Vestas turbine with a tip height of 492'. The GE turbine model has a tip height of 499'		
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.		

A summary of how the proposed wind turbines comply with the design parameters proposed by DTE in the May 15, 2019 design parameters letter and incorporated as requirements detailed in the November 18 SUP resolution is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 2 - DTE Design Parameters Section 14		
Standards	Requirements	T-82 (492')
Turbine Spacing	1,000 Feet Apart	3,235'
Turbine Height*	500 Feet	492'
Setback from Public Roads	(738')* 1.5x Tip Height**	1,810'
Setback from Non-participating Parcels	(738')* 1.5x Tip Height	815'
Setback from an Inhabited Structure on a Non-Participating Parcel***	1,320 Feet	1,655'
Setback from an Inhabited Structure on a Participating Parcel***	1,000 Feet	Greater than 1,000'
Setback from a Village	1,320 Feet	1.89 miles
Shadow Flicker	30 Hours per Year	30 hours – <i>See comment below</i>
Sound at Non-Participating Property Lines	55 dBA	Normal Operation
Sound at Non-Participating Inhabited Structures	45 dBA	Normal Operation
*Based off the Vestas turbine with a tip height of 492'. The GE turbine model has a tip height of 499'.		
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.		
***Inhabited Structure defined as residence, school, hospital, church or public library, or any other occupied buildings.		

Additional Considerations for Review:

Shadow flicker – In the Shadow Flicker Analysis, DTE has indicated that turbine 82 will be curtailed so as not to contribute more than 30 hours of shadow flicker per year to the surrounding homes. This aligns with the May 15, 2019 design parameters letter. For further details on curtailment, see DTE’s Appendix A of the Shadow Flicker Analysis dated April 20, 2021.

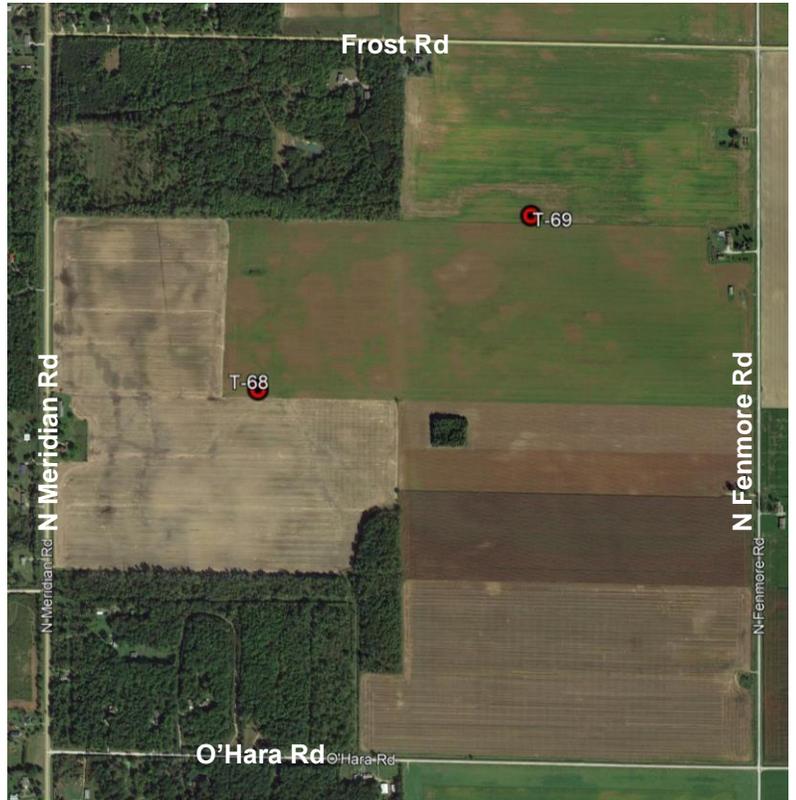
May 12, 2021

JONESFIELD TOWNSHIP – SECTION 16

The comments below are based on conformance with the Jonesfield Township Zoning Ordinance and the approved November 18, 2020 resolution conditionally granting a special land use permit resolution that incorporates DTE’s design parameters, for Turbines T-68 and T-69 in Section 16.

Review Standards:

For the purpose of this review, participation status was determined by the Special Land Use Application and Appendix A of the application; the parcels with only participation agreements are not considered. The applicant has identified those parcels under participation agreements, and has indicated they consider these to be part of the application. Properties that have participation agreements but were not included in the Special Land Use Permit are not included in this request.



A summary of how the proposed wind turbines comply with Section 612(l) of the Jonesfield Township Zoning Ordinance requirements and DTE’s design parameters is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

**Table 1 - Township Zoning Standards
Section 16**

Standards	Zoning Requirements	T-68 (492')	T-69 (499')
Minimum Parcel Size	5 acres per WTG tower proposed	78 acres	73 acres
Minimum Parcel Width	150 feet	1,320'	1,320'
Setback from Property Lines	(492'/499')* 1.0x Tip Height**	69' ***	68' ***
Setback from Road Right-of-Way	(492'/499')* 1.0x Tip Height**	1,520'	1,230'
Sound	60 dBA	Normal Operation	NRO Mode 105

*Based off the GE turbine with a tip height of 499' and the Vestas turbine with a tip height of 492'.

**Tip Height is defined as the distance between the ground and the highest point of the WTGs.

***On October 29, 2020, the ZBA granted variance(s) for various setback(s) from property lines.

A summary of how the proposed wind turbines comply with the design parameters proposed by DTE in the May 15, 2019 design parameters letter and incorporated as requirements detailed in the November 18 SUP resolution is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 2 - DTE Design Parameters Section 16			
Standards	Requirements	T-68 (492')	T-69 (499')
Turbine Spacing	1,000 Feet Apart	2,380'	2,380'
Turbine Height*	500 Feet	492'	499'
Setback from Public Roads	(748.5)* 1.5x Tip Height**	1,520'	1,230'
Setback from Non-participating Parcels	(748.5)* 1.5x Tip Height	1,025'	900'
Setback from an Inhabited Structure on a Non- Participating Parcel***	1,320 Feet	1,480'	1,365'
Setback from an Inhabited Structure on a Participating Parcel***	1,000 Feet	Greater than 1,000'	Greater than 1,000'
Setback from a Village	1,320 Feet	2.15 miles	2.19 miles
Shadow Flicker	30 Hours per Year	30 hours – <i>See comment below</i>	30 hours – <i>See comment below</i>
Sound at Non-Participating Property Lines	55 dBA	Normal Operation	NRO Mode 105
Sound a Non-Participating Inhabited Structures	45 dBA	Normal Operation	NRO Mode 105
*Based off the GE turbine with a tip height of 499' and the Vestas turbine with a tip height of 492'.			
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.			
***Inhabited Structure defined as residence, school, hospital, church or public library, or any other occupied buildings.			

Additional Considerations for Review:

Shadow flicker – In the Shadow Flicker Analysis, DTE has indicated that turbines 68 and 69 will be curtailed so as not to contribute more than 30 hours of shadow flicker per year to the surrounding homes. This aligns with the May 15, 2019 design parameters letter. For further details on curtailment, see DTE’s Appendix A of the Shadow Flicker Analysis dated April 20, 2021.

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The proposed access road for turbine 69 is adjacent to a non-participating property. Section 907(4)(E) of the Zoning Ordinance states any improvements shall maintain stormwater run-off at a pre-development rate and should not have any off-site impacts. DTE has submitted a Hydrology Memo that addresses this specific turbine site. Spicer recommends that the approved access road is designed so that any additional run-off from the project is directed away from the adjacent non-participating property.

May 12, 2021

JONESFIELD TOWNSHIP – SECTION 21

The comments below are based on conformance with the Jonesfield Township Zoning Ordinance and the approved November 18, 2020 resolution conditionally granting a special land use permit resolution that incorporates DTE’s design parameters, for Turbines T-70 in Section 21.

Review Standards:

For the purpose of this review, participation status was determined by the Special Land Use Application and Appendix A of the application; the parcels with only participation agreements are not considered. The applicant has identified those parcels under participation agreements, and has indicated they consider these to be part of the application. Properties that have participation agreements but were not included in the Special Land Use Permit are not included in this request.



A summary of how the proposed wind turbine complies with Section 612(I) of the Jonesfield Township Zoning Ordinance requirements and DTE’s design parameters is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 1 - Township Zoning Standards Section 21		
Standards	Zoning Requirements	T-70 (492')
Minimum Parcel Size	5 acres per WTG tower proposed	156 acres
Minimum Parcel Width	150 feet	2,640'
Setback from Property Lines	(492')* 1.0x Tip Height**	915'
Setback from Road Right-of-Way	(492')* 1.0x Tip Height**	1,080'
Sound	60 dBA	Normal Operation
*Based off the Vestas turbine with a tip height of 492'. The GE turbine model has a tip height of 499'.		
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.		
***On October 29, 2020, the ZBA granted variance(s) for various setback(s) from property lines.		

A summary of how the proposed wind turbines comply with the design parameters proposed by DTE in the May 15, 2019 design parameters letter and incorporated as requirements detailed in the November 18 SUP resolution is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 2 - DTE Design Parameters Section 21		
Standards	Requirements	T-70 (492')
Turbine Spacing	1,000 Feet Apart	3,245'
Turbine Height*	500 Feet	492'
Setback from Public Roads	(738')* 1.5x Tip Height**	1,080'
Setback from Non-participating Parcels	(738')* 1.5x Tip Height	905'
Setback from an Inhabited Structure on a Non-Participating Parcel***	1,320 Feet	1,490'
Setback from an Inhabited Structure on a Participating Parcel***	1,000 Feet	Greater than 1,000'
Setback from a Village	1,320 Feet	1.34 miles
Shadow Flicker	30 Hours per Year	30 hours – <i>See comment below</i>
Sound at Non-Participating Property Lines	55 dBA	Normal Operation
Sound a Non-Participating Inhabited Structures	45 dBA	Normal Operation
*Based off the Vestas turbine with a tip height of 492'. The GE turbine model has a tip height of 499'.		
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.		
***Inhabited Structure defined as residence, school, hospital, church or public library, or any other occupied buildings.		

Additional Considerations for Review:

Shadow flicker – In the Shadow Flicker Analysis, DTE has indicated that turbine 70 will be curtailed so as not to contribute more than 30 hours of shadow flicker per year to the surrounding homes. This aligns with the May 15, 2019 design parameters letter. For further details on curtailment, see DTE’s Appendix A of the Shadow Flicker Analysis dated April 20, 2021.

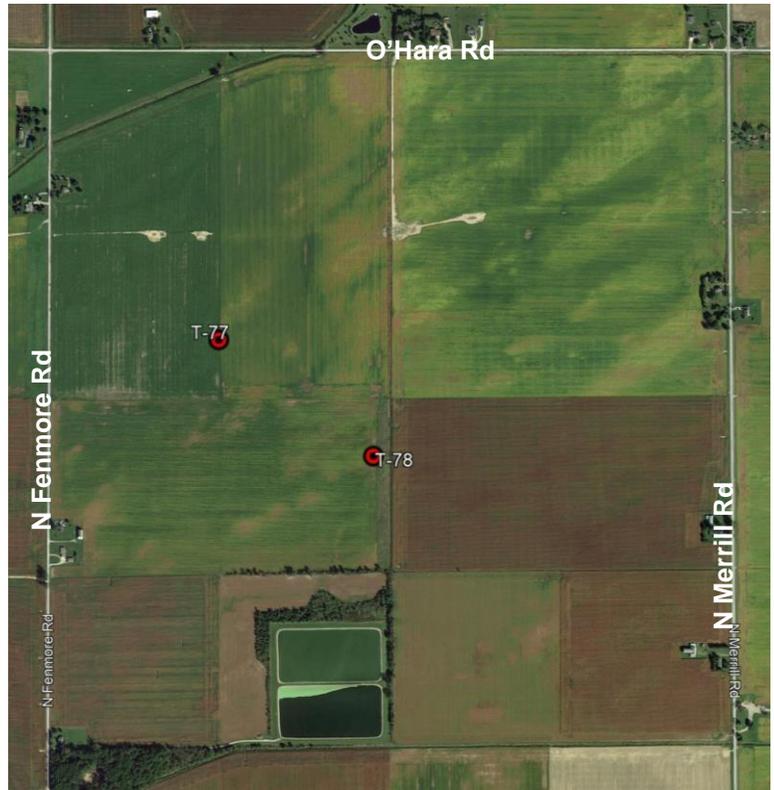
May 12, 2021

JONESFIELD TOWNSHIP – SECTION 22

The comments below are based on conformance with the Jonesfield Township Zoning Ordinance and the approved November 18, 2020 resolution conditionally granting a special land use permit that incorporates DTE’s design parameters, for Turbines T-77 and T-78 in Section 22.

Review Standards:

For the purpose of this review, participation status was determined by the Special Land Use Application and Appendix A of the application; the parcels with only participation agreements are not considered. The applicant has identified those parcels under participation agreements, and has indicated they consider these to be part of the application. Properties that have participation agreements but were not included in the Special Land Use Permit are not included in this request.



A summary of how the proposed wind turbines comply with Section 612(l) of the Jonesfield Township Zoning Ordinance requirements and DTE’s design parameters is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration

Table 1 - Township Zoning Standards Section 22			
Standards	Zoning Requirements	T-77 (492')	T-78 (492')
Minimum Parcel Size	5 acres per WTG tower	78 acres 80 acres	77 acres
Minimum Parcel Width	150 feet	1,320' 1,320'	1,320'
Setback from Property Lines	(492')* 1.0x Tip Height**	0' *** 469' *** 0' *** 469' ***	127' *** 429' *** 448' ***
Setback from Road Right-of-Way	(492')* 1.0x Tip Height**	1,295'	2,485'
Sound	60 dBA	Normal Operation	Normal Operation
*Based off the Vestas turbine with a tip height of 492'. The GE turbine model has a tip height of 499'.			
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.			
***On October 29, 2020, the ZBA granted variance(s) for various setback(s) from property lines.			

A summary of how the proposed wind turbines comply with the design parameters proposed by DTE in the May 15, 2019 design parameters letter and incorporated as requirements detailed in the November 18 SUP resolution is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 2 - DTE Design Parameters Section 22			
Standards	Requirements	T-77 (492')	T-78 (492')
Turbine Spacing	1,000 Feet Apart	1,485'	1,485'
Turbine Height*	500 Feet	492'	492'
Setback from Public Roads	(738)* 1.5x Tip Height**	1,295'	2,485'
Setback from Non-participating Parcels	(738)* 1.5x Tip Height	1,325'	900'
Setback from an Inhabited Structure on a Non-Participating Parcel***	1,320 Feet	1,605'	2,440'
Setback from an Inhabited Structure on a Participating Parcel***	1,000 Feet	Greater than 1,000'	Greater than 1,000'
Setback from a Village	1,320 Feet	0.88 miles	0.67 miles
Shadow Flicker	30 Hours per Year	30 hours – <i>See comment below</i>	30 hours – <i>See comment below</i>
Sound at Non-Participating Property Lines	55 dBA	Normal Operation	Normal Operation
Sound a Non-Participating Inhabited Structures	45 dBA	Normal Operation	Normal Operation
*Based off the GE turbine with a tip height of 499'. The Vestas turbine model has a tip height of 492'.			
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.			
***Inhabited Structure defined as residence, school, hospital, church or public library, or any other occupied buildings.			

Additional Considerations for Review:

Shadow flicker – In the Shadow Flicker Analysis, DTE has indicated that turbines 77 and 78 will be curtailed so as not to contribute more than 30 hours of shadow flicker per year to the surrounding homes. This aligns with the May 15, 2019 design parameters letter. For further details on curtailment, see DTE’s Appendix A of the Shadow Flicker Analysis dated April 20, 2021.

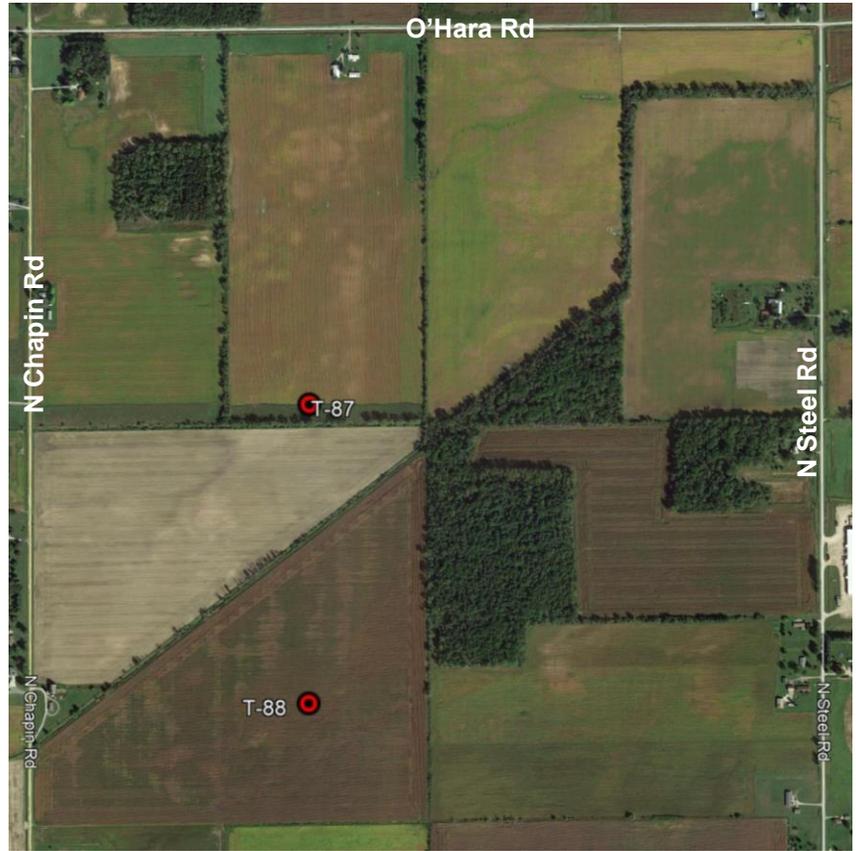
May 12, 2021

JONESFIELD TOWNSHIP – SECTION 24

The comments below are based on conformance with the Jonesfield Township Zoning Ordinance and the approved Nov 18 resolution that incorporates DTE’s design parameters for Turbines T-87 and T-88 in Section 24.

Review Standards:

For the purpose of this review, parcels participation status was determined by the Special Land Use Application and Appendix A of the application; the parcels with only participation agreements are not considered. The applicant has identified those parcels under participation agreements, and has indicated they consider these to be part of the application. Properties that have participation agreements but were not included in the Special Land Use Permit are not included in this request.



A summary of how the proposed wind turbines comply with Section 612(l) of the Jonesfield Township Zoning Ordinance requirements and DTE’s design parameters is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 1 - Township Zoning Standards Section 24			
Standards	Zoning Requirements	T-87 (492')	T-88 (492')
Minimum Parcel Size	5 acres per WTG tower proposed	77 acres	77 acres
Minimum Parcel Width	150 feet	1,320'	1,320'
Setback from Property Lines	(492')* 1.0x Tip Height**	159' ***	515'
Setback from Road Right-of-Way	(492')* 1.0x Tip Height**	1,855'	1,850'
Sound	60 dBA	Normal Operation	Normal Operation
*Based off the Vestas turbine with a tip height of 492'. The GE turbine model has a tip height of 499'.			
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.			
***On October 29, 2020, the ZBA granted variance(s) for various setback(s) from property lines.			

A summary of how the proposed wind turbines comply with the design parameters proposed by DTE in the May 15, 2019 design parameters letter and incorporated as requirements detailed in the November 18 SUP resolution is provided below. Items highlighted in **green** comply with the Zoning Ordinance. Items in **pink** need further consideration.

Table 2 - DTE Design Parameters Section 24			
Standards	Requirements	T-87 (492')	T-88 (492')
Turbine Spacing	1,000 Feet Apart	1,950'	1,990'
Turbine Height*	500 Feet	492'	492'
Setback from Public Roads	(738')* 1.5x Tip Height**	1,855'	1,850'
Setback from Non-participating Parcels	(738')* 1.5x Tip Height	785'	775'
Setback from an Inhabited Structure on a Non-Participating Parcel***	1,320 Feet	2,220'	1,715'
Setback from an Inhabited Structure on a Participating Parcel***	1,000 Feet	Greater than 1,000'	Greater than 1,000'
Setback from a Village	1,320 Feet	1.33 miles	1.16 miles
Shadow Flicker	30 Hours per Year	30 hours – <i>See comment below</i>	30 hours – <i>See comment below</i>
Sound at Non-Participating Property Lines	55 dBA	Normal Operation	Normal Operation
Sound a Non-Participating Inhabited Structures	45 dBA	Normal Operation	Normal Operation
*Based off the Vestas turbine with a tip height of 492'. The GE turbine model has a tip height of 499'.			
**Tip Height is defined as the distance between the ground and the highest point of the WTGs.			
***Inhabited Structure defined as residence, school, hospital, church or public library, or any other occupied buildings.			

Additional Considerations for Review:

Shadow flicker – In the Shadow Flicker Analysis, DTE has indicated that turbines 87 and 88 will be curtailed so as not to contribute more than 30 hours of shadow flicker per year to the surrounding homes. This aligns with the May 15, 2019 design parameters letter. For further details on curtailment, see DTE’s Appendix A of the Shadow Flicker Analysis dated April 20, 2021.

The proposed access roads for turbines 87 and 88 are all adjacent to non-participating properties. Section 907(4)(E) of the Zoning Ordinance states any improvements shall maintain stormwater run-off at a pre-development rate and should not have any off-site impacts. DTE has submitted a Hydrology Memo that addresses these specific turbine sites. Spicer recommends that the approved access roads are designed so that any additional run-off from the project is directed away from the adjacent non-participating properties.