

**Tuesday, November 2, 2021**  
**Medway Planning and Economic Development Board**  
**155 Village Street**  
**Medway, MA 02053**

|                   |                        |                           |                |                   |                      |                       |
|-------------------|------------------------|---------------------------|----------------|-------------------|----------------------|-----------------------|
| <b>Members</b>    | <b>Andy Rodenhiser</b> | <b>Bob Tucker</b>         | <b>Tom Gay</b> | <b>Matt Hayes</b> | <b>Rich Di Iulio</b> | <b>Jessica Chabot</b> |
| <b>Attendance</b> | <b>X</b>               | <b>Absent with Notice</b> | <b>Remote</b>  | <b>X</b>          | <b>X</b>             | <b>Remote</b>         |

**ALSO PRESENT:**

- Susy Affleck-Childs, Planning and Economic Development Coordinator

**PUBLIC COMMENTS:**

- There were no public comments.

**PUBLIC HEARINGS – ZONING BYLAW AMENDMENTS**

The Board is in receipt of the following: (**See Attached**)

- Public Hearing Notice dated 10-13-21 specifically for Battery Energy Storage Facilities article
- Revised BESS article dated 10-18-21
- Public Hearing Continuation Notice dated 10-13-21 for the other proposed Zoning Bylaw Amendments
- Revised draft Environmental Standards dated 10-18-21
- Environmental Standards draft with Town Counsel comments dated 10-28-21

**On a motion made by Rich Di Iulio, seconded by Matt Hayes, the Board voted by roll call to open the public hearing on the proposed Battery Energy Storage facilities warrant articles and to waive the reading of the public hearing notice. The motion was approved.**

**Andy Rodenhiser     aye**  
**Rich Di Iulio         aye**  
**Matt Hayes             aye**  
**Jessica Chabot       aye**

**Article 10 - BESS:**

This article is to see if the Town will amend the Zoning Bylaw to add a definition in Section 2 for Battery Energy Storage Facility and to establish a temporary moratorium in Section 1.8 on the establishment of such facilities in Medway. The reason for the moratorium is to allow the Planning and Economic Development Board enough time to conduct its review and study of BESS facilities and to propose potential zoning bylaw amendments to regulate BESS facilities. This articles provides for a moratorium on the construction of any and all battery storage facilities in the Energy Resources (ER) zoning district effective until June 30, 2023.

Resident Larry Ellsworth was present via Zoom. He communicated that there were many meetings on this, and he is in support of what is being put forward. There needs to be more language on this for the future and some definitions may need to be revised.

Resident Adam Houser joined the Zoom call to inquire about the background of how the article came to be and why the shift from previous years. He was one who signed the original petition in the spring of 2021 for a moratorium and would have liked to have been part of this current discussion.

There was a discussion that there has been a small group of interested citizens who have attended PEDB meetings and provided input on BESS. The article allows the town more time to research how to proceed.

**On a motion made by Matt Hayes, seconded by Rich Di Iulio, the Board voted by roll call to recommend the BESS article as provided.**

|                 |     |
|-----------------|-----|
| Andy Rodenhiser | aye |
| Rich Di Iulio   | aye |
| Matt Hayes      | aye |
| Jessica Chabot  | aye |

**On a motion made by Matt Hayes, seconded by Rich Di Iulio, the Board voted by roll call to close the public hearing for the BESS article.**

|                 |     |
|-----------------|-----|
| Andy Rodenhiser | aye |
| Rich Di Iulio   | aye |
| Matt Hayes      | aye |
| Jessica Chabot  | aye |

The Board then proceeded with the continued public hearing on the other proposed Zoning Bylaw amendments.

### **Article 9 – Environmental Standards:**

The Board is in receipt of a revised Article 9 Environmental Standards article dated 10-18-21. Also received is a version marked up by Town Counsel.

Select Board member Trindade was present and is concerned that the MA DEP has a noise level at 65 dBA and the Town is suggesting lower. He wonders if this will hurt possible businesses being able to meet this requirement. He was also wondering where the measurements are taken from.

Resident John Lally of Coffee Street was present via Zoom. He communicated that there has been a lot of work done on this with the consultants and Member Gay. He would not be in support of the noise level number being higher and would in fact oppose it on the town floor.

It was explained that measurements are taken mostly at the property lines of sensitive receptor locations.

Resident Lee Knowlton of Green Valley Road was present and explained that he was one who had been affected by the noise issues in this area (nearby industrial park).

The Board communicated that there have been many discussions on this topic. There have been

recommendations from two consultants on this article. The Board is comfortable with the 55 dBA standard. It was suggested to the two Select Board members who were present (Glenn Trindade and Dennis Crowley) that the Town do a full sound assessment to get a noise baseline. This is a costly study to undertake.

It was noted that the Select Board has not taken any action on this article but will discuss it further at their next meeting (November 8<sup>th</sup>). It was suggested to have the noise consultant at the Select Board's meeting to answer any questions.

Barbara Saint Andre was present as part of the Zoom meeting. She communicated that the Town Manager is concerned about the enforcement of this bylaw. The Board explained that the bylaw allows for there to be a noise consultant. It was recommended that there be outreach to Selectmen Foresto about the enforcement side of this bylaw. It was recommended to have the Building Commissioner at the Select Board's meeting to discuss this. Town Counsel's suggestion to add a section regarding waivers was discussed. At this point, the waiver language would have to be added on the town meeting floor. Such language could also be proposed for the Spring town meeting.

**On a motion made by Rich Di Iulio, seconded by Jessica Chabot, the Board voted by Roll Call to recommend Article 9 (dated 10.18.21) as written.**

|                        |            |
|------------------------|------------|
| <b>Andy Rodenhiser</b> | <b>aye</b> |
| <b>Rich Di Iulio</b>   | <b>aye</b> |
| <b>Matt Hayes</b>      | <b>aye</b> |
| <b>Jessica Chabot</b>  | <b>aye</b> |

### **Article 13:**

The Board is in receipt of the warrant article to see if the Town will vote to amend the Zoning Bylaw to allow for Construction Equip./Machinery Sales, Leasing, Rentals in the West Industrial district. This includes a new definition to add to Section II. There have been some revisions to the earlier draft which would add language about the maintenance and repair of equipment, machinery or devices owned or warrantied by the establishment. (**See Attached revised version**) It was displayed on the ZOOM Share Screen feature.

It was noted that Select Board member Crowley had requested the addition of the text in blue This had come up at the 11-1-21 Select Board meeting. Staff also suggested adding text regarding warrantied work.

Paul Yorkis, the original proponent of this idea, was supportive of the changes.

The added language would need to be amended on the floor of Town Meeting. The Chairman will inform the Town Moderator and the Finance Committee.

**On a motion made by Rich Di Iulio, seconded by Matt Hayes, the Board voted to recommend this Article with the revisions as discussed.**

|                        |            |
|------------------------|------------|
| <b>Andy Rodenhiser</b> | <b>aye</b> |
| <b>Rich Di Iulio</b>   | <b>aye</b> |
| <b>Matt Hayes</b>      | <b>aye</b> |
| <b>Jessica Chabot</b>  | <b>aye</b> |

**On a motion made by Matt Hayes, seconded by Rich Di Iulio, the Board voted to continue the hearing on zoning bylaw amendments until November 9, 2021 at 9:00 pm**

|                        |            |
|------------------------|------------|
| <b>Andy Rodenhiser</b> | <b>aye</b> |
| <b>Rich Di Iulio</b>   | <b>aye</b> |
| <b>Matt Hayes</b>      | <b>aye</b> |
| <b>Jessica Chabot</b>  | <b>aye</b> |

**FUTURE MEETING:**

- November 9, 2021

**ADJOURN:**

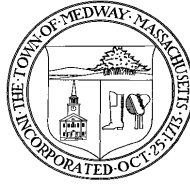
**On a motion made by Matt Hayes, seconded by Rich Di Iulio, the Board voted to adjourn the meeting.**

|                        |            |
|------------------------|------------|
| <b>Andy Rodenhiser</b> | <b>aye</b> |
| <b>Rich Di Iulio</b>   | <b>aye</b> |
| <b>Matt Hayes</b>      | <b>aye</b> |
| <b>Jessica Chabot</b>  | <b>aye</b> |

The meeting was adjourned at 8:30 p.m.

Prepared by,  
Amy Sutherland  
Recording Secretary

Reviewed and edited by,  
Susan E. Affleck-Childs  
Planning and Economic Development Coordinator



**November 2, 2021**  
**Medway Planning & Economic Development Board**  
**Meeting**

**Zoning Bylaw Amendments**  
**Public Hearing**

- Public Hearing Notice dated 10-13-21 specifically for the alternative Battery Energy Storage System article for a moratorium
- Alternative BESS article dated 10-18-21

NOTE - The first public hearing on proposed ZBL amendments started on October 12<sup>th</sup>.

- Excerpt of minutes of 10-12-21 hearing

At that hearing, the Board voted to continue the hearing to November 2<sup>nd</sup>.

- Zoning Bylaw Amendments public hearing continuation notice dated 10-13-21.
- Environmental Standards – Current draft dated 10-18-21
- Environmental Standards with Town Counsel comments dated 10-28-21

You need to vote a decision/recommendation on the alternative BESS article and the revised Environmental Standards article. I ask that you also discuss preparations for Town Meeting.

**Board Members**

Andy Rodenhiser, Chair  
Robert Tucker, Vice Chair  
Richard Di Iulio, Clerk  
Jessica Chabot, Member  
Matthew Hayes, P.E.,  
Member  
Thomas Gay, Associate  
Member



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**TOWN OF MEDWAY**  
**COMMONWEALTH OF MASSACHUSETTS**  
**PLANNING AND ECONOMIC**  
**DEVELOPMENT BOARD**

RECEIVED TOWN CLERK  
OCT 13 '21 PM 1:26

October 13, 2021

**NOTICE OF PUBLIC HEARING**  
**Proposed Amendments to Medway Zoning Bylaw**  
**Tuesday, November 2, 2021**

Pursuant to the *Medway Zoning Bylaw* and G.L. ch. 40A, §5, the Planning and Economic Development Board will conduct a public hearing on Tuesday, November 2, 2021 at 7:00 p.m. at Medway Town Hall, 155 Village Street, to receive comments on proposed amendments to the *Medway Zoning Bylaw*. Remote access to the hearing will be provided via the Zoom online platform as a courtesy for the public. Information for participating via Zoom will be included on the agenda for the Board's November 2, 2021 meeting which will be posted at: <https://www.townofmedway.org/calendar/month/2021-11>.

The proposed amendments have been prepared for inclusion on the warrant for consideration at the November town meeting, scheduled for November 15, 2021. The subject matter of the proposed amendments is summarized below. The specific article identifier will be assigned as the Select Board finalizes the warrant.

**ARTICLE A – Battery Energy Storage**

- Add a definition for *battery energy storage facility* in Section 2 DEFINITIONS
- Establish a moratorium on the establishment of battery energy storage facilities in Section 1 PURPOSE AND AUTHORITY

The draft of the proposed amendments is on file at the offices of the Town Clerk and the Community and Economic Development Department at Medway Town Hall, 155 Village Street, Medway, MA and may be reviewed during regular business hours. Face coverings are required at Town Hall for individuals not vaccinated for COVID-19. The proposed amendments will also be posted online at the Planning and Economic Development Board's web page at the Town's web site at: <https://www.townofmedway.org/planning-economic-development-board>. For further information or questions, please contact the Medway Planning office at 508-533-3291.

Interested persons or parties are invited to review the draft proposed amendments, and participate in the public hearing in person or via Zoom. Written comments are encouraged and may be sent to the Medway Planning and Economic Development Board, 155 Village Street, Medway, MA 02053 or emailed to: [planningboard@townofmedway.org](mailto:planningboard@townofmedway.org). All written comments will be entered into the record during the hearing.

**Andy Rodenhiser**  
Planning & Economic Development Board Chairman

To be published in the Milford Daily News: *Monday, October 18, 2021 and Tuesday, October 26, 2021*

Article \_\_\_\_

Revised Draft – October 18, 2021

To see if the Town will vote to amend the Zoning Bylaw as follows:

Amend Section 2 by adding the following new definition:

**Battery energy storage facility:** A series of containers or cabinets containing batteries and related equipment designed to store electrical energy for periodic resale to the wholesale energy market and/or other customers on the electrical grid. This includes all accessory equipment necessary for energy storage, including, but not limited to, inverters, transformers, cooling equipment, switching gear, metering equipment, transmission tie-lines, other power interconnection facilities and/or a project substation.

And by inserting the following new section as Section 1.8, Temporary Moratorium:

## 1.8 Temporary Moratorium

### A. Preamble

WHEREAS, the Medway Town Meeting voted on May 10, 2021:

“That the Planning and Economic Development Board conduct a review and study of Battery Energy Storage Systems (BESS) and engage the services of consultants and other experts as may be necessary to provide information on all aspects of the operation, safety, security, and technology of such systems, including the economic impact of a BESS facility if located in the Town of Medway, with a report to be completed by October 15, 2021 of the board’s findings and recommendations, to include but not be limited to, consideration of potential amendments to the Zoning By-Law.”

And WHEREAS, the Planning and Economic Development Board is conducting the review and study as voted by the Town Meeting, but the review and study was not completed by October 15, 2021, as a result of which, potential zoning bylaw amendments to address BESS have not been completed in time to be presented to the November 15, 2021 Town Meeting.

NOW, THEREFORE, it is proposed that a temporary moratorium be imposed in order to allow the Planning and Economic Development Board to conduct its review and study, and to proposed potential zoning bylaw amendments to regulate BESS.

### B. Temporary Moratorium

There is hereby imposed a temporary moratorium on the construction of any and all battery energy storage facilities ~~with a capacity of more than 5MW/10MMW effective until June 30, 2023 in the Town of Medway. Battery energy storage facilities with a capacity of 5MW/10MW or less may be allowed during this moratorium period only by special permit from the Planning and Economic Development Board, and only in the Energy Resources zoning district.~~ in the Energy Resources (ER) zoning district effective until June 30, 2023.

or act in any manner relating thereto.

### **Board Members**

Andy Rodenhiser, Chair  
Robert Tucker, Vice Chair  
Richard Di Iulio, Clerk  
Jessica Chabot, Member  
Matthew Hayes, P.E., Member  
Thomas Gay, Associate  
Member



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## **TOWN OF MEDWAY**

### **COMMONWEALTH OF MASSACHUSETTS**


## **PLANNING AND ECONOMIC DEVELOPMENT BOARD**

RECEIVED TOWN CLERK  
OCT 14 '21 PM4:14

### **MEMORANDUM**

October 14, 2021

TO: Stefany Ohannesian, Town Clerk  
Town of Medway Departments, Boards and Committees

FROM: Susy Affleck-Childs, Planning and Economic Development Coordinator 

RE: **Public Hearing Continuation for Proposed Amendments to the Medway Zoning bylaw**  
**Continuation Date – Tuesday, November 2, 2021 at 7:00 p.m.**

At its October 12, 2021 meeting, the Planning and Economic Development Board voted to continue the public hearing on proposed amendments to the Medway Zoning Bylaw to Tuesday, November 2, 2021 at 7:00 p.m. The amendments are to be considered at the November 15, 2021 Town Meeting.

Information on the proposed Zoning Bylaw amendments is available at:  
<https://www.townofmedway.org/planning-economic-development-board/pages/11-15-2021-town-meeting-proposed-zoning-bylaw-amendments>

Please don't hesitate to contact me if you have any questions.



# **Excerpt from 10-12-21 PEDB meeting minutes**

## **Zoning Bylaw Public Hearing**

### **PUBLIC HEARING – ZONING BYLAW AMENDMENTS:**

The Board is in receipt of the following: (See Attached)

- Public Hearing Notice posted 9-27-21
- Draft Article on Battery Energy Storage Systems
- Draft Article on Environmental Standards
- Draft Article on uses in Energy Resource District
- Draft Article on new use in West Industrial District
- Draft Article with miscellaneous housekeeping revisions

**On a motion made by Rich Di Iulio, seconded by Bob Tucker, the Board voted 4-0 to waive the reading of the public hearing notice.**

(Note – Jess Chabot has stepped away before the vote.)

#### **Article A: Battery Energy Storage Facility:**

The Board was informed that it was recommended to pull the previously submitted article and it is proposed to impose a temporary moratorium on the construction of any and all battery energy storage facilities with the capacity of more than 5 MW/10MWh effective until June 30, 2023.

The replacement of the article requires a separate public hearing which is scheduled for November 2, 2021.

**On a motion made by Rich Di Iulio, seconded by Jessica Chabot, the Board voted unanimously to withdraw the previously proposed BESS article.**

**On a motion made by Jessica Chabot, seconded by Bob Tucker, the Board voted unanimously to proceed with the alternative BESS article as presented.**

#### **Article D -West Industrial District:**

This Article is to add a definition for Construction Equipment/Machinery Sales, Leasing or Rentals in Section 2 Definitions and revise Table 1 Schedule of Uses in Section 5.4 to allow the above noted use in the West Industrial Zoning District by special permit. Proponent Paul Yorkis was present. The Board discussed equipment repairs. Mr. Yorkis indicated that the business will repair only their own equipment on site. There could be language added to the article about this requirement.

#### **Resident, Gibb Phenegar, 5 Causeway St:**

Mr. Phenegar wanted to know what has changed from the letter from the Planning Board provided to the ZBA in November 10, 2020 when this project had come before the ZBA for a use variance. this was not recommended. It was explained that when this was first proposed, the Board did not know about the particular prospective business and thought it was to be a contractor's yard which is not the case. Mr. Phenegar disagrees and thinks this has characteristics of a contractor's yard.

There was also discussion whether this use would also require a possible Class 1 and Class 2 license which may be needed from the Town due to the selling and leasing of equipment.

**On a motion made by Matt Hayes, seconded by Jessica Chabot, the Board voted unanimously to recommend Article D West Industrial District as amended.**

**Article B: Environmental standards**

The Board is in receipt of the most recently revised version of the Environmental Standards. This article is to replace Section 7.3. Environmental Standards, which governs noise, odor, vibration, dust and other environmental concerns. The Chairman explained that more than 30 hours on this article by many people.

Mr. Leigh Knowlton - 14 Green Valley: It was noted that language should be added that at the residential property line be added regarding the sensitive receptor. **(See attached email.)**

Mr. John Lally, 35 Cottage Street, communicated that he would like the following noted:

- The octave band should be in place at the sensitive receptors and residential property lines for absolute limits only.
- Change the ambient baseline for new noise source sound pressure level 2dB increases from the daytime, evening, and nighttime averages to the hourly L90 sound levels. (Medfield Senior Living) was included.
- Change Industrial- to -Industrial SPL overall level limit to 52dBA.
- Definition of continuous noise- “remove “which remains constant and stable over time”. **(See Attached email.)**

The Board asked the noise consultants (Jeff Komrower of Noise Control Engineering and Andy Carballeira of Acentech) for their opinion from Mr. Lally. It is recommended that there is no need for the octave band. The Consultant agreed with Mr. Lally on the (L90) approach as done for the background level. The recommendation was to look for the lowest period in an hour. The recommendation of 52 dBA is low and the Board is comfortable with 55 dBA and 60 dBA is too high. The Consultants agree with 55 dBA.

Dan Merrikin was present on behalf of property owner Ellen Rosenfeld, 2 Marc Road. He commented that the new definitions add some ambiguity to the noise requirements. The two new definitions clarify that “Noise” is considered “Air Pollution”. Since Section D.1. prohibits “Air Pollution” of any kind, it could be construed to prohibit “noises” which are permissible under D.2. The Board is fine with the definition as written.

Town Manager Michael Boynton participated via Zoom. He requests that municipal facilities be exempt. The Board is in agreement.

**On a motion made by Matt Hayes, seconded by Jessica Chabot, the Board voted to recommend the Environmental Standards as amended.**

**Article E – Housekeeping:**

**On a motion made by Matt Hayes, seconded by Jessica Chabot, the Board voted unanimously to recommend Article E as presented.**

**On a motion made by Rich Di Iulio, seconded by Bob Tucker, the Board voted unanimously to continue the public hearing for the warrant to November 2, 2021 at 7:00 pm.**

## ENVIRONMENTAL STANDARDS

### REVISED DRAFT – October 18, 2021 (for PEDB)

ARTICLE: To see if the Town will vote to amend the Zoning Bylaw, Section 7.3 Environmental Standards, by deleting it in its entirety and replacing it as follows:

#### 7.3. ENVIRONMENTAL STANDARDS

- A. **Purpose.** The intent of this section is to provide standards for uses which, by their operation, may generate impacts that are potentially hazardous, harmful to the environment, disturbing, offensive or objectionable.
- B. **Enforcement:** The Zoning Bylaw, § 3.1, Enforcement, Violations, and Penalties authorizes the Building Commissioner, or designee, to interpret and enforce the Bylaw. At the discretion of the Building Commissioner, a technical consultant may be engaged by the Town of Medway to investigate and document violations pursuant to this section.
- C. **Definitions:** For purposes of this section of the Bylaw, the following terms shall be defined as follows:

**Air Pollution:** The presence in the ambient air space of one or more air contaminants or combinations thereof in such concentrations and of such duration as to: (a) cause a nuisance; (b) be injurious, or be on the basis of current information, potentially injurious to human health or animal life, to vegetation, or to property; or (c) unreasonably interfere with the comfortable enjoyment of life and property or the conduct of business.

**Ambient Noise:** The sound pressure level at a given location produced by everything else excluding the source of sound being monitored, analyzed, or evaluated. Also referred to as background noise. Ambient noise includes environmental noises from sources such as traffic, aircraft, waves, alarms, animals or noise from existing mechanical devices such as air conditioning, power supplies, or motors that are present prior to introduction of a new intrusive sound source that is being evaluated. The measurement metric to determine ambient noise levels will be the A-weighted  $L_{90}$  sound level.

**Commercial Zones:** Properties located in the Central Business, Village Commercial, Neighborhood Commercial, Oak Grove Village Center, or Oak Grove Business Park zoning districts as shown on the Medway Zoning Map

**Continuous Noise:** Noise ~~which remains constant and stable over time~~ including but not limited to noise generated by machinery that keeps running without interruption such as heating or ventilation systems, factory equipment, or engine noise.

Commented [SA1]: Deleted text.

**(Hz) Hertz:** A unit for measuring the number of cycles that occur in a second. In this standard, Hz will be referring to sound waves.

**(dB) Decibel:** A logarithmic (dimensionless) measure used in describing the amplitude of sound.

**(dBA) A-weighted decibel:** An expression of the relative loudness of sound in the air as perceived by the human ear.

**Detection Threshold:** The lowest concentration or intensity of noise, odor, vibration, or other environmental hazard regulated by this bylaw that is noticeable to a reasonable person with normal sensory sensitivities.

**Disturbing, offensive or objectionable odors:** Those which are at or above the detection threshold of a person with normal olfactory sensitivity.

**Industrial Zones:** Properties located in the East Industrial, West Industrial, Business/Industrial, or Energy Resource zoning districts as shown on the Medway Zoning Map

**L<sub>90</sub> Sound Level:** The A-weighted sound level that is exceeded ninety percent (90%) of the time during a measurement period.

**Noise:** Sound of sufficient intensity and/or duration as to cause a condition of air pollution. Noise which complies with subsection D.2 herein shall not be deemed to cause a condition of air pollution.

Commented [SA2]: Added text.

**Noise Level:** The frequency weighted sound pressure level as measured with a sound level meter or equivalent device using the A-weighting network. This level is designated dBA.

**Octave Band:** A frequency band where the highest frequency is twice the lowest frequency.

**One-third Octave Band (TOB):** A frequency band where the highest frequency is 1.26 times the lowest frequency.

**Odor Plume:** The cloud of odor created when odor molecules are released from their source and are expanded through air movement.

**Prominent Discrete Tone:** The presence of acoustic energy concentrated in a narrow frequency range, including, but not limited to, an audible tone, which produces a one-third octave sound pressure level greater than that of either adjacent one-third octave and which exceeds the arithmetic average of the two adjacent one-third octave band levels by an amount greater than shown in the following table opposite the center of frequency for the one-third octave band containing the concentration of acoustical energy.

| 1/3 Octave Band<br>Center Frequency (Hz) | dB | 1/3 Octave Band<br>Center Frequency (Hz) | dB |
|--|----|--|----|
| 100                                      | 16 | 1250                                     | 4  |
| 125                                      | 14 | 1600                                     | 4  |
| 160                                      | 12 | 2000                                     | 3  |
| 200                                      | 11 | 2500                                     | 3  |
| 250                                      | 9  | 3150                                     | 3  |
| 315                                      | 8  | 4000                                     | 3  |
| 400                                      | 7  | 5000                                     | 4  |
| 500                                      | 6  | 6300                                     | 4  |
| 630                                      | 6  | 8000                                     | 5  |
| 800                                      | 5  | 10000                                    | 6  |
| 1000                                     | 4  |  |    |

**Residential Zones:** Properties located in the Agricultural-I, Agricultural-II, Village Residential, or Oak Grove Neighborhood zoning districts as shown on the Medway Zoning Map

**Sensitive Receptor:** An occupied residence or facility whose occupants are more susceptible to the adverse effects of noise and odor including but not limited to hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.

D. **Standards.** The following standards shall apply to all zoning districts.

1. **Smoke, Fly Ash, Dust, Fumes, Vapors, Gases, Other Forms of Air Pollution:** All activities involving smoke, fly ash, dust, fumes, vapors, gases, other forms of air pollution, as defined in [CMR 310, § 7](#), Air Pollution Control Regulations, as amended, which can cause damage to human health, to animals or vegetation, or other forms of property, or which cause any excessive soiling at any point are prohibited.
2. **Noise Disturbance:** The Building Commissioner may determine that a noise source is subject to investigation, and if it is determined to be in violation of this bylaw, may take appropriate enforcement action, including the issuance of orders requiring the development and implementation of corrective measures, and/or imposition of fines or non-criminal penalties.
  - a. **Standards.** No person or persons owning, leasing or controlling the operation of any source or sources of noise shall produce disturbing, offensive or objectionable noises in any zoning district or impact any space where people live, work or assemble in a way that unreasonable interferes with the comfortable enjoyment of life or the use of property.
  - 1) **Continuous Noise.** For the purposes of this bylaw, continuous noise restrictions apply to permanent non-residential uses and home-based businesses where noise is a by-product of business operations (such as from exhaust equipment). Maximum permissible sound pressure levels measured at the property line of the noise source

shall not exceed the values specified in the tables below. In addition, maximum permissible sound levels measured at Sensitive Receptors positioned anywhere on a property that is wholly or partially located within two-thousand feet of the property line of the source of continuously radiated noise shall not exceed the values in the tables below. In the calculation of day-evening-night levels (known as  $L_{den}$ ), Daytime is defined as between the hours of 7:00 a.m. and 7:00 p.m.; Evening is defined as between the hours of 7:00 p.m. and 11:00 p.m.; and Nighttime is defined as between the hours of 11:00 p.m. and 7:00 a.m.<sup>1</sup> These time periods will be used to determine compliance as per the tables below.

**Industrial Zoned Property to Industrial Zoned Property**

|                        | Daytime<br>7:00 a.m. –<br>7:00 p.m.<br>@ Property<br>Line | Evening<br>7:00 pm –<br>11:00 pm<br>@ Property<br>Line | Nighttime<br>11:00 p.m. –<br>7:00 a.m.<br>@ Property<br>Line |
|------------------------|---|--|--|
| Overall Level<br>(dBA) | 55  | 55   | 55   |

**Commented [SA3]:** These levels as decided at the 10-12 meeting.

**Industrial or Commercial Zoned Property to Commercial Zoned Property**

|                        | Daytime<br>7:00 a.m. –<br>7:00 p.m.<br>@ Property<br>Line | Evening<br>7:00 p.m. –<br>11:00 p.m.<br>@ Property<br>Line | Nighttime<br>11:00 p.m. –<br>7:00 a.m.<br>@ Property<br>Line |
|------------------------|---|--|--|
| Overall Level<br>(dBA) | 50  | 50   | 50   |

**Industrial or Commercial Zoned Property to Residential Zoned Property**

- The introduction of any potential new noise sources cannot result in an increase in broadband sound pressure levels of more than 2 dB above the existing ambient conditions at the nearest residential property line or any Sensitive Receptor; and
- The introduction of any potential noise sources cannot result in overall noise levels that exceed the following:

<sup>1</sup> Directive 2002/49/EC of the European Parliament and Council of the European Union, 25-June-2002

|   | <b>Daytime<br/>7:00 a.m. –<br/>7:00 p.m.<br/>@ any<br/>Residential<br/>Property Line</b> | <b>Evening<br/>7:00 pm –<br/>11:00 pm<br/>@ any<br/>Residential<br/>Property Line</b> | <b>Nighttime<br/>11:00 p.m. –<br/>7:00 a.m.<br/>@ any<br/>Residential<br/>Property Line</b> | <b>Evening &amp;<br/>Nighttime<br/>7:00 p.m. –<br/>7:00 a.m.<br/>@ Sensitive<br/>Receptors</b> |
|---|--|---|---|--|
| Maximum<br>Overall Noise<br>Level (dBA) | 47   | 45  | 42  | 32   |

2) **Tonal Requirements** – The presence of prominent discrete tones, as defined in Section 7.3 (c) herein at any industrial, commercial or residential property line shall be considered a violation.

3) **Temporary Noise.** For the purposes of this bylaw, non-continuous noise restrictions apply to permanent non-residential installations and home-based businesses where noise is periodically produced. No person shall use or cause the use of any noise-producing equipment or tool (such as for construction, repair, demolition operations or equipment testing such as for emergency generators) between the hours of 7:00 p.m. and 7:00 a.m.

4) **Construction Noise.** Work at construction sites and in the operation of construction equipment including start-up and movement of trucks, vehicles, and machines shall commence no earlier than 7:00 a.m. and shall cease no later than 7:00 p.m., Monday through Saturday. No construction shall take place on Sundays, federal holidays or state legal holidays without the advance written approval of the Building Commissioner.

*Advisory Note* – State regulations authorize municipal police departments, fire departments, and board of health officials to enforce noise standards that are based on certain sections of [310 Code of Massachusetts Regulations \(CMR\), § 7](#), Air Pollution Control Regulations. Such regulations are distinct and separate from the Town's zoning regulations for noise.

- b. **Investigation.** The Building Commissioner may determine that a noise source is subject to investigation, and, if it is determined to be in violation of this bylaw, may take appropriate enforcement action, including the issuance of orders requiring the development and implementation of corrective measures, and/or imposition of fines or non-criminal penalties. If the Building Commissioner determines that an investigation is warranted, he or she or a designee, may undertake a noise study to determine if a non-compliant noise condition exists. The Building Commissioner may enlist the assistance of other Town personnel for the investigation. At the discretion of the Building Commissioner, a qualified acoustical consultant whose qualifications include Institute of

Noise Control Engineering (INCE) board certification or equivalent experience may be engaged by the Town to assist in the investigation including measurements and documentation of violations. Depending on the particular site and its noise generators, the noise study may include measurements of:

- Ambient noise (Daytime, Evening, and Nighttime) and
- Operational noise levels (Daytime, Evening, and Nighttime) at the facility property line and at Sensitive Receptors located anywhere on a property that is wholly or partially located within two thousand feet of the facility property line. These operational measurements may include one-third octave band measurements to check for the prominent discrete tone condition as defined in Section 7.3(c).

**c. Noise Control, Abatement and Mitigation Plan.**

- 1) If the Building Commissioner determines that there is a violation, he or she shall order the owner or operator to come into compliance. The owner and/or operator of the noise producing use shall provide a noise control, abatement and mitigation plan to the Building Commissioner for review and approval, or otherwise bring the property into compliance with this bylaw and the order of the Building Commissioner. The plan shall address how the site will become compliant. Compliance shall be achieved through industry best practices and suitable mitigation measures. The plan shall be prepared by a qualified acoustical consultant whose qualifications include Institute of Noise Control Engineering (INCE) board certification or equivalent experience.
- 2) Special permit and site plan applicants for facilities that could potentially introduce noise may be required to conduct a background noise survey over a minimum of a 7-day period to establish noise levels at the nearest residential property lines and at the property line of any Sensitive Receptor located within 2,000 feet of the subject property for conditions at the time of application. The applicant shall make a good faith effort to secure permission from the owners of such noted properties to install the sound monitoring equipment and to provide documentation of such efforts as part of the noise survey report. The sound monitoring is to be conducted by a qualified professional acoustic testing firm, in accordance with the procedures in with the most current versions of American National Standards ANSI S12.18<sup>2</sup> and ANSI/ASA

**Commented [SA4]:** As discussed at the 10-12 meeting.

<sup>2</sup> Acoustical Society of America, American National Standard ANSI S12.18-1994 (R2009), "Procedures for Outdoor Measurement of Sound Pressure Level," reaffirmed by ANSI June 15, 2009. Reference is to Method #1: General method for routine measurements.

<sup>3</sup> Acoustical Society of America, American National Standard ANSI/ASA S3/SC1.100-2014/ANSI/ASA S12.100-2014, Methods to Define and Measure the Residual Sound in Protected Natural and Quiet Residential Areas <https://webstore.ansi.org/standards/asa/ansiasas3sc11002014s12>



S3/SC1.100-2014/ANSI/ASA S12.100-2014<sup>3</sup>. Sound analyzers used for the background noise monitoring should be capable of collecting 10-minute and hourly L<sub>90</sub> sound levels. Background noise levels will be determined by monitoring noise levels for at least seven days. For each hour of the day, the hourly L<sub>90</sub> levels measured on every day of the monitoring period will be arithmetically averaged to determine a single L<sub>90</sub> average for each of the 24 hours of the day. The background noise level for Daytime, Evening and Nighttime periods will then be determined by taking the lowest averaged hourly L<sub>90</sub> value found in each of these time periods. The arithmetic average of the hourly L<sub>90</sub> levels for Nighttime, Evening and Daytime hours will represent the background levels. The 10-minute L<sub>90</sub> sound levels will be used to determine if any unusual activity occurred during that hour. If so, that hourly measurement will be discarded and not included in the average calculation.

**Commented [SA5]:** Added and deleted text. Prepared by Jeff Komrower. As discussed at the 10-12 meeting.

- 3) If a special permit or site plan approval is required for construction or operation of any facility which could introduce noise sources into the community, once background ambient noise levels are established, an applicant may be required submit a noise control, abatement and mitigation plan during the permitting process to demonstrate that the noise levels as specified above will not be exceeded.
  - 4) A noise control, abatement and mitigation plan shall use established acoustical prediction procedures and should predict noise levels at property lines as well as Sensitive Receptors. The noise control, abatement and mitigation plan shall include the concept of “buy quiet”, which means using the quietest equipment that will meet operational requirements. The practice of using the Best Available Control Technology (BACT) shall also be employed to assure that any equipment being installed is as quiet as possible. The potential existence of prominent discrete tones as defined above shall also be evaluated and addressed.
  - d. **Corrective Measures.** Non-residential uses that produce non-compliant noise must install and maintain noise reducing equipment in accordance with the approved noise control plan to meet the requirements of this section. The Building Commissioner may require the provision of reports to document ongoing noise compliance.
  - e. **Continued Noise Compliance.** Should it be determined that a facility goes out of compliance and exceeds any allowable noise limit conditions (e.g. due to equipment wear), corrective action will be required to bring the facility back into compliance which could include, but not be limited to, equipment replacement or additional mitigation steps.
3. **Vibration:** No vibration which is discernible to the human sense of feeling for three minutes or more in any hour between 7:00 a.m. and 7:00 p.m. or for thirty seconds or more in any one hour from 7:00 p.m. to 7:00 a.m. shall be permitted. No vibration at any time shall produce an acceleration of more than 0.1g or shall result in any combination of amplitude

and frequencies beyond the "safe" range on the most recent edition of Table 7, U.S. Bureau of Mines Bulletin NO. 442 (U.S. Department of the Interior).

- 4. Odors:** The Building Commissioner may determine that an odor is disturbing, offensive or objectionable and is subject to investigation, and, if it is determined to be in violation of this bylaw, may take appropriate enforcement action, including the issuance of orders requiring the development and implementation of corrective measures, and/or the imposition of fines and non-criminal penalties.
- a. **Standards** – Disturbing, offensive or objectionable odors as defined in Paragraph C. shall not be produced in any zoning district or impact any space where people live, work or assemble in a way that unreasonably interferes with the comfortable enjoyment of life or the use of property. Failure to meet either the Reasonableness Standard or the Measurement Standard listed below shall constitute a violation of this section.
- 1) **Sensorial Reasonableness Standard** –The Building Commissioner, or designee, may determine, using only her or his sense of smell, that an odor is one which is disturbing, offensive or objectionable to a reasonable person with normal olfactory sensitivity.
- 2) **Measurement Standards** – No disturbing, offensive or objectionable odor greater than that caused by the lowest odor detection thresholds as listed in the most recent edition of the [American Industrial Hygiene Association \(AIHA\) Odor Thresholds for Chemicals with Established Occupational Health Standards, Reported Odor Thresholds \(EG Table 6.3 in 2<sup>nd</sup> Edition\)](#) shall be permitted. Due to the potential of odorant mixtures causing more intense odors than individual odorant compounds in isolation, nothing in this Bylaw shall be interpreted as allowing for any disturbing, offensive or objectionable odors at or above the cited detection thresholds.
- b. **Investigation.** The Building Commissioner or designee shall investigate odor complaints until determined to be without merit or resolved to the satisfaction of the Building Commissioner.
- 1) **Assessment Area** – The Building Commissioner or designee shall investigate odor complaints for odors emanating from:
- a) **Immediate Impact Zone** - Any resident, occupant, or owner of property located within 1,000 feet of the property line of the property with a source generating and emitting the disturbing, objectionable or offensive odor, as measured from property line to property line.
- b) **Secondary Impact Zone** - A collection of complaints from five or more residents, occupants, or owners of property located within 2,500 feet of the property line of

the property with a source generating and emitting the disturbing, objectionable or offensive odor as measured from property line to property line.

- 2) The Building Commissioner or designee may investigate possible odor violations upon their own initiative or at the request of Town officials or staff and shall investigate public complaints about an odor of a suspicious or dangerous nature.
- 3) If the Building Commissioner determines that an investigation is warranted, he or she or a designee, may undertake an odor observation to determine if a disturbing, objectionable or offensive odor exists. At the discretion of the Building Commissioner, a technical odor consultant may be engaged by the Town to assist in the investigation including odor observation and documentation of violations. The odor consultant shall be trained in the practices of ASTM (American Society for Testing Materials) - E679 and meet the selection criteria of EN13725 (international olfactometry standard). As a component of such investigation, measurements may be done in the field by using:
  - a) Undiluted odor field observations (i.e. sniffing) or odor sampling to be performed at a frequency, duration, and locations appropriate for the odor source under investigation and the locations of odor complaints that have been received by the Town. The purpose is to detect and assess the presence of recognizable odors linkable to a specific source in ambient air. This may be accomplished by:
    - i. Grid method of analysis - Odor hours for a geographic area of evaluation to establish an odor hour frequency measurement.
    - ii. Plume method of analysis – Measurement of extent of the area where an odor plume originating from a specific odor source can be perceived and recognized under specific meteorological and operating conditions.

The following other forms of measurement may be used only as supplemental methods to evaluate persistent problems or higher intensity odors as a way to determine the severity of the situation.

- b) Field Olfactometry - A method to quantify odors in ambient air by means of a portable odor detecting and measuring device known as a field olfactometer. A field olfactometer measures odor strength and persistence using a Dilution-to-Threshold (D/T) ratio. The Dilution-to-Threshold ratio is a measure of odor concentration by determining the number of carbon filtered air dilutions needed to make the odorous ambient air non-detectable. The formula for calculating D/T with a field olfactometer is:

$$D/T = \frac{\text{Volume of Carbon Filtered Air}}{\text{Volume of Odorous Air}}$$

- c) **Chemical Analysis** – Instrumental methods of characterizing odor involving the identification and quantification of chemical compounds in an odor sample by means of gas chromatography coupled with mass spectrometry, analysis of hydrocarbon molecules, and analysis of single gases such as ammonia and hydrogen sulfide.
  - d) **Instrumental Odor Monitoring** – Instruments designed to mimic human olfaction in the detection and characterization of simple or complex odors. Also referred to as electronic (E) - noses.
  - e) Any other method or best practice determined to be appropriate by the Building Commissioner.
- c. **Odor Control Plan** – If, based on the investigation, the Building Commissioner determines that there is a violation, the owner and/or operator of the odor-producing use shall be required to provide an odor control, abatement and mitigation plan to the Building Commissioner for review and approval, or otherwise bring the property into compliance with this bylaw and the order of the Building Commissioner. The plan shall address how the site will become compliant and specify suitable corrective measures. Compliance shall be achieved through industry best practices and suitable mitigation measures. The plan shall be prepared by a certified environmental engineer, certified environmental professional, or certified industrial hygienist with experience in odor management, abatement and mitigation technologies. The Building Commissioner may also require the plan to include the provision of reports of ongoing odor monitoring and compliance.
- d. **Corrective Measures** - Non-residential uses that produce non-compliant odors shall be required to install and maintain odor-eliminating equipment in accordance with the approved odor control plan to meet the requirements of this section.

## E. Exemptions

- 1) **Farming.** Impacts resulting from agricultural, farm-related, or forestry-related activities as defined by [G.L., c 128, Agriculture, § 1A](#), as amended, and Medway General Bylaws, ARTICLE XXXI, §2 Right to Farm, are exempt from these restrictions when such activities follow generally accepted practices ([G.L., c 111, §125A](#)).
- 2) **Residential Uses.** Impacts resulting from residential activities such as but not limited to barbecues, wood stove exhaust, driveway paving, gardening, and house painting are exempt from these restrictions.
- 3) **Repair and infrequent maintenance activities.** Repair and infrequent maintenance activities such as but not limited to those for septic and sewer systems are exempt from these restrictions.

4) **Construction.** Impacts resulting from construction, demolition, or repair work that occurs between 7:00 a.m. and 6:00 p.m. on public improvements authorized by a governmental body or agency; utility work and repairs, and other similar work on private property pursuant to an order by a governmental body or agency for health or safety purposes are exempt from these restrictions.

5) **Municipal uses.** Municipal uses and other governmental entities are exempt from the provisions of this Section 7.3.

**Commented [SA6]:** Added as discussed at the 10-12 meeting with Michael Boynton.

Or to act in any manner relating thereto.

PLANNING AND ECONOMIC DEVELOPMENT BOARD

## ENVIRONMENTAL STANDARDS

### Comments from Town Counsel 10-28-21

#### ARTICLE 1: (Amend Zoning Bylaw: Environmental Standards)

To see if the Town will vote to amend the Zoning Bylaw, Section 7.3 Environmental Standards, by deleting it in its entirety and replacing it as follows:

**Commented [A1]:** Confirm that a properly noticed G.L. c. 40A, § 5 hearing has been held or will be held prior to Town Meeting.  
Needs 2/3 vote.

#### 7.3. ENVIRONMENTAL STANDARDS

- A. **Purpose.** The intent of this section is to provide standards for uses which, by their operation, may generate impacts that are potentially hazardous, harmful to the environment, disturbing, offensive or objectionable.
- B. **Enforcement:** The Zoning Bylaw, § 3.1, Enforcement, Violations, and Penalties authorizes the Building Commissioner, or designee, to interpret and enforce the Bylaw. At the discretion of the Building Commissioner, a technical consultant may be engaged by the Town of Medway to investigate and document violations pursuant to this section.
- C. **Definitions:** For purposes of this section of the Bylaw, the following terms shall be defined as follows:

**Commented [A2]:** Did these definitions come from state or federal regulations?

**Air Pollution:** The presence in the ambient air space of one or more air contaminants or combinations thereof in such concentrations and of such duration as to: (a) cause a nuisance; (b) be injurious, or be on the basis of current information, potentially injurious to human health or animal life, to vegetation, or to property; or (c) unreasonably interfere with the comfortable enjoyment of life and property or the conduct of business.

**Commented [A3]:** Definition? Refer to 310 CMR 7.00.

**Commented [A4]:** This is vague, and in my opinion, could be subject to challenge.

**Ambient Noise:** The sound pressure level at a given location produced by everything else excluding the source of sound being monitored, analyzed, or evaluated. Also referred to as background noise. Ambient noise includes environmental noises from sources such as traffic, aircraft, waves, alarms, animals or noise from existing mechanical devices such as air conditioning, power supplies, or motors that are present prior to introduction of a new intrusive sound source that is being evaluated. The measurement metric to determine ambient noise levels will be the A-weighted  $L_{90}$  sound level.

**Commercial Zones:** Properties located in the Central Business, Village Commercial, Neighborhood Commercial, Oak Grove Village Center, or Oak Grove Business Park zoning districts as shown on the Medway Zoning Map

**Continuous Noise:** Noise including but not limited to noise generated by machinery that keeps running without interruption including, but not limited to heating or ventilation systems, factory equipment, or engine noise.

**(Hz) Hertz:** A unit for measuring the number of cycles that occur in a second. In this standard, Hz will be referring to sound waves.

**(dB) Decibel:** A logarithmic (dimensionless) measure used in describing the amplitude of sound.

**(dBA) A-weighted decibel:** An expression of the relative loudness of sound in the air as perceived by the human ear.

**Detection Threshold:** The lowest concentration or intensity of noise, odor, vibration, or other environmental hazard regulated by this bylaw that is noticeable to a reasonable person with normal sensory sensitivities.

**Disturbing, offensive or objectionable odors:** Those which are at or above the detection threshold of a person with normal olfactory sensitivity.

**Commented [A5]:** Again, this is vague, and in my opinion, could be subject to challenge

**Industrial Zones:** Properties located in the East Industrial, West Industrial, Business/Industrial, or Energy Resource zoning districts as shown on the Medway Zoning Map

**L<sub>90</sub> Sound Level:** The A-weighted sound level that is exceeded ninety percent (90%) of the time during a measurement period.

**Noise:** Sound of sufficient intensity and/or duration as to cause a condition of air pollution. Noise which complies with subsection D.2 herein shall not be deemed to cause a condition of air pollution.

**Noise Level:** The frequency weighted sound pressure level as measured with a sound level meter or equivalent device using the A-weighting network. This level is designated dBA.

**Octave Band:** A frequency band where the highest frequency is twice the lowest frequency.

**One-third Octave Band (TOB):** A frequency band where the highest frequency is 1.26 times the lowest frequency.

**Odor Plume:** The cloud of odor created when odor molecules are released from their source and are expanded through air movement.

**Prominent Discrete Tone:** The presence of acoustic energy concentrated in a narrow frequency range, including, but not limited to, an audible tone, which produces a one-third octave sound pressure level greater than that of either adjacent one-third octave and which exceeds the arithmetic average of the two adjacent one-third octave band levels by an amount greater than shown in the following table opposite the center of frequency for the one-third octave band containing the concentration of acoustical energy.

| 1/3 Octave Band<br>Center Frequency<br>(Hz) | dB | 1/3 Octave Band<br>Center Frequency<br>(Hz) | dB |
|---|----|---|----|
| 100   | 16 | 1250  | 4  |
| 125   | 14 | 1600  | 4  |
| 160   | 12 | 2000  | 3  |
| 200   | 11 | 2500  | 3  |
| 250   | 9  | 3150  | 3  |
| 315   | 8  | 4000  | 3  |
| 400   | 7  | 5000  | 4  |
| 500   | 6  | 6300  | 4  |
| 630   | 6  | 8000  | 5  |
| 800   | 5  | 10000                                       | 6  |
| 1000  | 4  |   |    |

**Residential Zones:** Properties located in the Agricultural-I, Agricultural-II, Village Residential, or Oak Grove Neighborhood zoning districts as shown on the Medway Zoning Map

**Sensitive Receptor:** An occupied residence or facility whose occupants are more susceptible to the adverse effects of noise and odor including but not limited to hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.

D. **Standards.** The following standards shall apply to all zoning districts.

1. **Smoke, Fly Ash, Dust, Fumes, Vapors, Gases, Other Forms of Air Pollution:** All activities involving smoke, fly ash, dust, fumes, vapors, gases, other forms of air pollution, as defined in [CMR 310, § 7](#), Air Pollution Control Regulations, as amended, which can cause damage to human health, to animals or vegetation, or other forms of property, or which cause any excessive soiling at any point are prohibited.
2. **Noise Disturbance:** The Building Commissioner may determine that a noise source is subject to investigation, and if it is determined to be in violation of this bylaw, may take appropriate enforcement action, including the issuance of orders requiring the development and implementation of corrective measures, and/or imposition of fines or non-criminal penalties.

- a. **Standards.** No person or persons owning, leasing or controlling the operation of any source or sources of noise shall produce disturbing, offensive or objectionable noises in any zoning district or impact any space where people live, work or assemble in a way that unreasonable interferes with the comfortable enjoyment of life or the use of property.

- 1) **Continuous Noise.** For the purposes of this bylaw, continuous noise restrictions apply to permanent non-residential uses and home-based businesses where noise is a by-product of business operations (such as from exhaust equipment). Maximum permissible sound pressure levels measured at the property line of the noise source shall not exceed the values specified in the tables below. In addition, maximum permissible sound levels measured at Sensitive Receptors positioned anywhere on a property that is wholly or partially located within two-thousand feet of the property line of the source of continuously radiated noise shall not exceed the values in the tables below. In the calculation of day-evening-night levels (known as  $L_{den}$ ), Daytime is defined as between the hours of 7:00 a.m. and 7:00 p.m.; Evening is defined as between the hours of 7:00 p.m. and 11:00 p.m.; and Nighttime is defined as between the hours of 11:00 p.m. and 7:00 a.m.<sup>1</sup> These time periods will be used to determine compliance as per the tables below.

**Industrial Zoned Property to Industrial Zoned Property**

|                        | Daytime<br>7:00 a.m. – 7:00<br>p.m.<br>@ Property<br>Line | Evening<br>7:00 pm –<br>11:00 pm<br>@ Property<br>Line | Nighttime<br>11:00 p.m. –<br>7:00 a.m.<br>@ Property Line |
|------------------------|---|--|---|
| Overall Level<br>(dBA) | 55  | 55   | 55  |

**Commented [A6]:** This is very vague and in my opinion, subject to challenge. I suggest tightening it up with a distance – such as any noise audible within \_\_\_ feet of the source...” Or use the continuous noise standard below.

<sup>1</sup> Directive 2002/49/EC of the European Parliament and Council of the European Union, 25-June-2002



**Industrial or Commercial Zoned Property to Commercial Zoned Property**

|                        | <b>Daytime<br/>7:00 a.m. –<br/>7:00 p.m.<br/>@ Property<br/>Line</b> | <b>Evening<br/>7:00 p.m. –<br/>11:00 p.m.<br/>@ Property<br/>Line</b> | <b>Nighttime<br/>11:00 p.m. – 7:00<br/>a.m.<br/>@ Property Line</b> |
|------------------------|--|---|---|
| Overall Level<br>(dBA) | 50   | 50  | 50  |

**Industrial or Commercial Zoned Property to Residential Zoned Property**

- The introduction of any potential new noise sources cannot result in an increase in broadband sound pressure levels of more than 2 dB above the existing ambient conditions at the nearest residential property line or any Sensitive Receptor; and
- The introduction of any potential noise sources cannot result in overall noise levels that exceed the following:

|   | <b>Daytime<br/>7:00 a.m. –<br/>7:00 p.m.<br/>@ any<br/>Residential<br/>Property Line</b> | <b>Evening<br/>7:00 pm – 11:00<br/>pm<br/>@ any<br/>Residential<br/>Property Line</b> | <b>Nighttime<br/>11:00 p.m. –<br/>7:00 a.m.<br/>@ any<br/>Residential<br/>Property Line</b> | <b>Evening &amp;<br/>Nighttime<br/>7:00 p.m. – 7:00<br/>a.m.<br/>@ Sensitive<br/>Receptors</b> |
|---|--|---|---|--|
| Maximum<br>Overall Noise<br>Level (dBA) | 47   | 45  | 42  | 32   |

- 2) **Tonal Requirements** – The presence of prominent discrete tones, as defined in Section 7.3 (c) herein at any industrial, commercial or residential property line shall be considered a violation.
- 3) **Temporary Noise.** For the purposes of this bylaw, non-continuous noise restrictions apply to permanent non-residential installations and home-based businesses where noise is periodically produced. No person shall use or cause the use of any noise-producing equipment or tool (such as for construction, repair, demolition operations or equipment testing such as for emergency generators) between the hours of 7:00 p.m. and 7:00 a.m.
- 4) **Construction Noise.** Work at construction sites and in the operation of construction equipment including start-up and movement of trucks, vehicles, and machines shall commence no earlier than 7:00 a.m. and shall cease no later than 7:00 p.m., Monday through Saturday. No construction shall take place on Sundays, federal holidays or state legal holidays without the advance written approval of the Building Commissioner.

*Advisory Note* – State regulations authorize municipal police departments, fire departments, and board of health officials to enforce noise standards that are based on certain sections of [310 Code of Massachusetts Regulations \(CMR\), § 7](#), Air Pollution Control Regulations. Such regulations are distinct and separate from the Town's zoning regulations for noise.

**Commented [A7]:** Outdoor work?

**Commented [A8]:** What about special permit/site plan decisions from the Special Permit Granting Authority and Earth Removal Permits from the Select Board pursuant to General Bylaws, Article IX.

b. **Investigation.** The Building Commissioner may determine that a noise source is subject to investigation, and, if it is determined to be in violation of this bylaw, may take appropriate enforcement action, including the issuance of orders requiring the development and implementation of corrective measures, and/or imposition of fines or non-criminal penalties. If the Building Commissioner determines that an investigation is warranted, he or she or a designee, may undertake a noise study to determine if a non-compliant noise condition exists. The Building Commissioner may enlist the assistance of other Town personnel for the investigation. At the discretion of the Building Commissioner, a qualified acoustical consultant whose qualifications include Institute of Noise Control Engineering (INCE) board certification or equivalent experience may be engaged by the Town to assist in the investigation including measurements and documentation of violations. Depending on the particular site and its noise generators, the noise study may include measurements of:

- Ambient noise (Daytime, Evening, and Nighttime) and
- Operational noise levels (Daytime, Evening, and Nighttime) at the facility property line and at Sensitive Receptors located anywhere on a property that is wholly or partially located within two thousand feet of the facility property line. These operational measurements may include one-third octave band measurements to check for the prominent discrete tone condition as defined in Section 7.3(c).

c. **Noise Control, Abatement and Mitigation Plan.**

- 1) If the Building Commissioner determines that there is a violation, he or she shall order the owner or operator to come into compliance. The owner and/or operator of the noise producing use shall provide a noise control, abatement and mitigation plan to the Building Commissioner for review and approval, or otherwise bring the property into compliance with this bylaw and the order of the Building Commissioner. The plan shall address how the site will become compliant. Compliance shall be achieved through industry best practices and suitable mitigation measures. The plan shall be prepared by a qualified acoustical consultant whose qualifications include Institute of Noise Control Engineering (INCE) board certification or equivalent experience.
- 2) Special permit and site plan applicants for facilities that could potentially introduce noise may be required to conduct a background noise survey over a minimum of a 7-day period to establish noise levels at the nearest residential property lines and at the property line of any Sensitive Receptor located within 2,000 feet of the subject property for conditions at the time of application. The applicant shall make a good faith effort to secure permission from the owners of such noted properties to install the sound monitoring equipment and to provide documentation of such efforts as part of the noise survey report. The sound monitoring is to be conducted by a qualified professional acoustic testing firm, in accordance with the procedures in with the most current versions of American National Standards ANSI S12.18<sup>2</sup> and ANSI/ASA S3/SC1.100-2014/ANSI/ASA S12.100-2014<sup>3</sup>. Sound analyzers used for the background noise monitoring should be capable of

<sup>2</sup> Acoustical Society of America, American National Standard ANSI S12.18-1994 (R2009), "Procedures for Outdoor Measurement of Sound Pressure Level," reaffirmed by ANSI June 15, 2009. Reference is to Method #1: General method for routine measurements.

<sup>3</sup> Acoustical Society of America, American National Standard ANSI/ASA S3/SC1.100-2014/ANSI/ASA S12.100-2014. Methods to Define and Measure the Residual Sound in Protected Natural and Quiet Residential Areas <https://webstore.ansi.org/standards/asa/ansiasas3sc11002014s12>

**Commented [A9]:** Is this from a State or Federal Regulations – it seems like a broad area.

**Commented [A10]:** This is vague. Who determines what this is? Contacting the owner in writing? By certified mail? What about indemnity and liability issues requiring an applicant to go on private property?

collecting 10-minute and hourly L<sub>90</sub> sound levels. Background noise levels will be determined by monitoring noise levels for at least seven days. For each hour of the day, the hourly L<sub>90</sub> levels measured on every day of the monitoring period will be arithmetically averaged to determine a single L<sub>90</sub> average for each of the 24 hours of the day. The background noise level for Daytime, Evening and Nighttime periods will then be determined by taking the lowest averaged hourly L<sub>90</sub> value found in each of these time periods. The 10-minute L<sub>90</sub> sound levels will be used to determine if any unusual activity occurred during that hour. If so, that hourly measurement will be discarded and not included in the average calculation.

- 3) If a special permit or site plan approval is required for construction or operation of any facility which could introduce noise sources into the community, once background ambient noise levels are established, an applicant may be required submit a noise control, abatement and mitigation plan during the permitting process to demonstrate that the noise levels as specified above will not be exceeded.
  - 4) A noise control, abatement and mitigation plan shall use established acoustical prediction procedures and should predict noise levels at property lines as well as Sensitive Receptors. The noise control, abatement and mitigation plan shall include the concept of “buy quiet”, which means using the quietest equipment that will meet operational requirements. The practice of using the Best Available Control Technology (BACT) shall also be employed to assure that any equipment being installed is as quiet as possible. The potential existence of prominent discrete tones as defined above shall also be evaluated and addressed.
- d. **Corrective Measures.** Non-residential uses that produce non-compliant noise must install and maintain noise reducing equipment in accordance with the approved noise control plan to meet the requirements of this section. The Building Commissioner may require the provision of reports to document ongoing noise compliance.
  - e. **Continued Noise Compliance.** Should it be determined that a facility goes out of compliance and exceeds any allowable noise limit conditions (e.g. due to equipment wear), corrective action will be required to bring the facility back into compliance which could include, but not be limited to, equipment replacement or additional mitigation steps.
3. **Vibration:** No vibration which is discernible to the human sense of feeling for three minutes or more in any hour between 7:00 a.m. and 7:00 p.m. or for thirty seconds or more in any one hour from 7:00 p.m. to 7:00 a.m. shall be permitted. No vibration at any time shall produce an acceleration of more than 0.1g or shall result in any combination of amplitude and frequencies beyond the "safe" range on the most recent edition of Table 7, U.S. Bureau of Mines Bulletin NO. 442 (U.S. Department of the Interior).
4. **Odors:** The Building Commissioner may determine that an odor is disturbing, offensive or objectionable and is subject to investigation, and, if it is determined to be in violation of this bylaw, may take appropriate enforcement action, including the issuance of orders requiring the development and implementation of corrective measures, and/or the imposition of fines and non-criminal penalties.
- a. **Standards** – Disturbing, offensive or objectionable odors as defined in Paragraph C. shall not be produced in any zoning district or impact any space where people live, work or assemble in a way that unreasonably interferes with the comfortable enjoyment of life or the

use of property. Failure to meet either the Reasonableness Standard or the Measurement Standard listed below shall constitute a violation of this section.

- 1) **Sensorial Reasonableness Standard** – The Building Commissioner, or designee, may determine, using only her or his sense of smell, that an odor is one which is disturbing, offensive or objectionable to a reasonable person with normal olfactory sensitivity.
- 2) **Measurement Standards** – No disturbing, offensive or objectionable odor greater than that caused by the lowest odor detection thresholds as listed in the most recent edition of the [American Industrial Hygiene Association \(AIHA\) Odor Thresholds for Chemicals with Established Occupational Health Standards, Reported Odor Thresholds \(EG Table 6.3 in 2<sup>nd</sup> Edition\)](#) shall be permitted. Due to the potential of odorant mixtures causing more intense odors than individual odorant compounds in isolation, nothing in this Bylaw shall be interpreted as allowing for any disturbing, offensive or objectionable odors at or above the cited detection thresholds.

**Commented [A11]:** This is vague and, in my opinion, could be subject to challenge.

b. **Investigation.** The Building Commissioner or designee shall investigate odor complaints until determined to be without merit or resolved to the satisfaction of the Building Commissioner.

- 1) **Assessment Area** – The Building Commissioner or designee shall investigate odor complaints for odors emanating from:
  - a) **Immediate Impact Zone** - Any resident, occupant, or owner of property located within 1,000 feet of the property line of the property with a source generating and emitting the disturbing, objectionable or offensive odor, as measured from property line to property line.
  - b) **Secondary Impact Zone** - A collection of complaints from five or more residents, occupants, or owners of property located within 2,500 feet of the property line of the property with a source generating and emitting the disturbing, objectionable or offensive odor as measured from property line to property line.
- 2) The Building Commissioner or designee may investigate possible odor violations upon their own initiative or at the request of Town officials or staff and shall investigate public complaints about an odor of a suspicious or dangerous nature.
- 3) If the Building Commissioner determines that an investigation is warranted, he or she or a designee, may undertake an odor observation to determine if a disturbing, objectionable or offensive odor exists. At the discretion of the Building Commissioner, a technical odor consultant may be engaged by the Town to assist in the investigation including odor observation and documentation of violations. The odor consultant shall be trained in the practices of ASTM (American Society for Testing Materials) - E679 and meet the selection criteria of EN13725 (international olfactometry standard). As a component of such investigation, measurements may be done in the field by using:
  - a) Undiluted odor field observations (i.e. sniffing) or odor sampling to be performed at a frequency, duration, and locations appropriate for the odor source under investigation and the locations of odor complaints that have been received by the Town. The purpose is to detect and assess the presence of recognizable odors linkable to a specific source in ambient air. This may be accomplished by:

- i. Grid method of analysis - Odor hours for a geographic area of evaluation to establish an odor hour frequency measurement.
- i. Plume method of analysis – Measurement of extent of the area where an odor plume originating from a specific odor source can be perceived and recognized under specific meteorological and operating conditions.

The following other forms of measurement may be used only as supplemental methods to evaluate persistent problems or higher intensity odors as a way to determine the severity of the situation.

- b) Field Olfactometry - A method to quantify odors in ambient air by means of a portable odor detecting and measuring device known as a field olfactometer. A field olfactometer measures odor strength and persistence using a Dilution-to-Threshold (D/T) ratio. The Dilution-to-Threshold ratio is a measure of odor concentration by determining the number of carbon filtered air dilutions needed to make the odorous ambient air non-detectable. The formula for calculating D/T with a field olfactometer is:

$$D/T = \frac{\text{Volume of Carbon Filtered Air}}{\text{Volume of Odorous Air}}$$

- c) Chemical Analysis – Instrumental methods of characterizing odor involving the identification and quantification of chemical compounds in an odor sample by means of gas chromatography coupled with mass spectrometry, analysis of hydrocarbon molecules, and analysis of single gases such as ammonia and hydrogen sulfide.
  - d) Instrumental Odor Monitoring – Instruments designed to mimic human olfaction in the detection and characterization of simple or complex odors. Also referred to as electronic (E) - noses.
  - e) Any other method or best practice determined to be appropriate by the Building Commissioner.
- c. **Odor Control Plan** – If, based on the investigation, the Building Commissioner determines that there is a violation, the owner and/or operator of the odor-producing use shall be required to provide an odor control, abatement and mitigation plan to the Building Commissioner for review and approval, or otherwise bring the property into compliance with this bylaw and the order of the Building Commissioner. The plan shall address how the site will become compliant and specify suitable corrective measures. Compliance shall be achieved through industry best practices and suitable mitigation measures. The plan shall be prepared by a certified environmental engineer, certified environmental professional, or certified industrial hygienist with experience in odor management, abatement and mitigation technologies. The Building Commissioner may also require the plan to include the provision of reports of ongoing odor monitoring and compliance.
- d. **Corrective Measures** - Non-residential uses that produce non-compliant odors shall be required to install and maintain odor-eliminating equipment in accordance with the approved odor control plan to meet the requirements of this section.

#### E. Exemptions

- 1) **Farming.** Impacts resulting from agricultural, farm-related, or forestry-related activities as defined by [G.L., c 128, Agriculture, § 1A](#), as amended, and Medway General Bylaws, ARTICLE

XXXI, §2 Right to Farm, are exempt from these restrictions when such activities follow generally accepted practices ([G.L., c 111, §125A](#)).

- 2) **Residential Uses.** Impacts resulting from residential activities such as but not limited to barbecues, wood stove exhaust, driveway paving, gardening, and house painting are exempt from these restrictions.
- 3) **Repair and infrequent maintenance activities.** Repair and infrequent maintenance activities such as but not limited to those for septic and sewer systems are exempt from these restrictions.
- 4) **Construction.** Impacts resulting from construction, demolition, or repair work that occurs between 7:00 a.m. and 6:00 p.m. on public improvements authorized by a governmental body or agency; utility work and repairs, and other similar work on private property pursuant to an order by a governmental body or agency for health or safety purposes are exempt from these restrictions.
- 5) **Municipal uses.** Municipal uses and other governmental entities are exempt from the provisions of this Section 7.3.

**Suggested section by Town Counsel**

**Waivers .** The Planning and Economic Development Board/Select Board shall have the authority to grant special exceptions to this bylaw to any person or entity seeking relief from the provisions of this bylaw. Any person or entity seeking such relief shall file an application with the Planning and Economic Development Board/Select Board demonstrating compliance with this bylaw would constitute an unreasonable hardship on the applicant, on the community, or on other persons. The Planning and Economic Development Board/Select Board shall establish procedures for processing applications for such special exceptions, including such hearing as the Planning and Economic Development Board/Select Board deems appropriate. Any special exception granted by the Planning and Economic Development Board/Select Board may set forth conditions on the use.

Or to act in any manner relating thereto.

**PLANNING AND ECONOMIC DEVELOPMENT BOARD**

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DRAFT Proposed Zoning Bylaw Amendment – Construction equipment sales and leasing  
Suggested edits by bjs 11-2-21

ARTICLE 13: To see if the Town will vote to amend the Zoning Bylaw as follows:

By adding a new definition in SECTION II – Definitions as follows:

**Construction Equipment/Machinery Sales, Leasing or Rentals** - A facility that sells, leases, or rents any new or used construction equipment, machinery or device designed and intended for use in construction or material handling including but not limited to air compressors, air tracks, backhoes, bulldozers, compactors and rollers, cranes, derricks, ditchers, excavators, generators, graders, loaders, lulls, off-highway haulers, pavers, pile drivers, scrapers, tractors, trenchers and other material handling equipment. ~~This use may include~~ The maintenance and repair ~~only~~ of equipment, machinery or devices owned by the establishment may be allowed, but no maintenance or repair may be performed on any equipment, machinery or devices that are not owned by the establishment.

And by amending Table 1 in Section 5.4 Schedule of Uses by adding Construction Equipment/Machinery Sales, Leasing or Rentals (subject to Section 7.1.3 Outdoor Storage) as a use in E. Industrial and Related Uses to be allowed by special permit only in the West Industrial Zoning District with the Planning and Economic Development Board serving as the special permit granting authority.

TABLE 1: SCHEDULE OF USES

|   | AR-I | AR-II | VR | CB | VC | NC | BI | EI | ER | WI | Form-Based Districts |       |      |
|---|------|-------|----|----|----|----|----|----|----|----|----------------------|-------|------|
|   |      |       |    |    |    |    |    |    |    |    | OG VC                | OG BP | OG N |
| E. INDUSTRIAL AND RELATED USES  |      |       |    |    |    |    |    |    |    |    |                      |       |      |
| Construction Equipment/Machinery Sales, Leasing or Rentals (Subject to Section 7.1.3 Outdoor Storage) | N    | N     | N  | N  | N  | N  | N  | N  | N  | PB | N                    | N     | N    |

Or to act in any manner relating thereto.

PLANNING AND ECONOMIC DEVELOPMENT BOARD

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