

**Tuesday, October 26, 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>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>

**PRESENT:**

- Susy Affleck-Childs, Planning and Economic Development Coordinator
- Steve Bouley, Tetra Tech (remote participation)
- Barbara Saint Andre, Director of Community and Economic Development (remote participation)

**PUBLIC COMMENTS:**

- There were no public comments.

**MARZILLI SITE PLAN MODIFICATION PUBLIC HEARING**  
**CONTINUATION:**

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

- Draft site plan modification decision dated 10-22-21
- Conservation Commission amended Order of Conditions dated 9-28-21

The Board is in receipt of the draft decision for Marzilli Site Plan Modification. The Board has reviewed this decision.

**On a motion made by Bob Tucker, seconded by Matt Hayes, the Board voted unanimously to approve the findings for Marzilli Modification Site Plan.**

**On a motion made by Bob Tucker, seconded by Rich Di Iulio, the Board voted unanimously to approve the decision for Marzilli Modification Site Plan.**

**CONSTRUCTION REPORTS:**

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

- Medway Mills – Tetra Tech Report #2 dated 10-22-21
- Harmony Village – Tetra Tech report #5, #6, #7, #8

**Medway Mill:**

Steve Bouley informed the Board that the contractor has started clearing and grubbing. There was a question about if a construction fence would be needed to limit access. There was a



complaint that the dogs could go under the fence. The Board thinks this is a good practice on all projects to have a construction fence installed. Susy Affleck-Childs will contact the developer.

**Harmony Village:**

The Board was informed that the applicant has installed the drainage structures without informing Consultant Bouley for inspection. There has been a request for the photos to show the installation. The Board would like this to be dug up or confirm that this was installed properly. It was suggested to camera the area. Consultant Bouley also communicated that he has not received monthly reports from the project engineer. It was suggested to have the applicant come in and update the Board. The Board could also ask the Building Department to issue a Cease and Desist on all the units under construction if the applicant chooses not to come in on November 9, 2021.

**CORRESPONDENCE:**

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

- PEDB letter dated 10-20-21 to ZBA re: Shaw's
- Report on Impacts of e-Commerce from MAPC February 2021
- Article on e-Commerce by MAPC staff from October 2021 MA Planning magazine

**PROPOSED FIELD CHANGE EVERGREEN VILLAGE:**

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

- 10-19-21 email from developer Maria Varrichione with photos
- Photos showing the installed retaining wall using unapproved materials
- Excerpt from Evergreen Decision about the field change process

The Board is in receipt of a letter requesting a field change. Developer Maria Varrichione was present via Zoom. She reported there was an oversight by the contractor and a wall was installed which was not fieldstone. The contractor thought the interlocking product was a better type of wall. The way it drains is the same but it has an extra layer of netting. Aesthetically, it is not a stone wall. Photos of the wall were reviewed. The detail on the plan is for a field stone appearance. The slope on the outside of the wall belongs to the other property. The Board recommends that the applicant go in front of the DRC next week Monday night for their review and recommendation on the field change. Consultant Bouley thinks this wall is better structurally. This matter will be placed on the PEDB agenda for November 9, 2021.

**WINGATE FARM SUBDIVISION MODIFICATION PUBLIC HEARING:**

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

- Public Hearing Continuation Notice to 10.26.21
- Letter from Dan Merrikin dated 10-12-21 regarding sight distance analysis.

Applicant Karyl Spiller-Walsh and the applicant's engineering consultant Dan Merrikin were present in the meeting room. The Board is in receipt of a letter from Dan Merrikin. As directed by Susy Affleck-Childs, this letter has not yet been reviewed by consultant Steve Bouley. The applicant will be invoiced for services and will need to provide funds. Dan Merrikin did explain that the information provided did reference information relative to the sight distance. Looking



North of the site, the intersection sight distance (ISD) coming out of Wingate Farm Road is 260 ft. looking north, the ISD is well in excess of 500 feet. This does not take into consideration the forthcoming improvements on Holliston Street to be installed by the Timber Crest developer which will further increase the northerly ISD. Also based on the formula from AASHTO, the recommended ISD for the posted 35 mph speed limit is 246 ft. It is their opinion that the adjustment for the road slope is appropriate. The applicant is willing to install whatever reasonable signage is necessary. There will also be a lowering of the new road by 2-3 ft. There will also be the removal of vegetation along the property frontage north of Wingate Farm Road.

It was recommended that this be placed on the November 9, 2021 agenda allowing time for the Consultant to review the submittal and to secure additional plan review funds from the applicant.

**On a motion made by Jessica Chabot, seconded by Rich Di Iulio, the Board voted unanimously to continue the hearing to November 9, 2021.**

### **WILLIAM WALLACE VILLAGE – PERFORMACE SECURITY**

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

- Performance Security Agreement
- Release of Covenant
- Tetra Tech bond estimate dated 9-27-21 for \$354,324

The Board has been provided with all the required documentation to sign the Release of Covenant and the Performance Security Agreement. There was a recommendation to not authorize the Building Department to issue a building permit for additional units until the applicant provides the performance funds to the Town and documents are recorded.

**On a motion made by Matt Hayes, seconded by Bob Tucker, the Board voted unanimously to sign the Release of Covenant for William Wallace Village.**

**On a motion made by Matt Hayes, seconded by Bob Tucker, the Board voted unanimously to approve the Performance Security Agreement in the amount of \$354,324.00 and to not authorize the Building Department to issue building permits until funds are received and documents recorded.**

### **PHYTOPIA PUBLIC HEARING CONTINUATION**

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

- Public Hearing Continuation 10-26-21
- Letter from Project Engineer Chris Sparges dated 10-12-21 summarizing plan changes
- Letter from Project Engineers Charis Sparges in response to Tetra Tech's 6-8-21 review letter
- Revised Site Plan dated 10-12-21 by William Sparges Engineers, Planners and Surveyors
- Draft marijuana special permit decision dated 10-22-21
- 10-18-21 email communication from applicant's attorney Ted Cannon re: delivery protocols



- 10-15-21 edited version of draft decision by applicant's attorney Ted Cannon

Attorney Ted Cannon was present in the meeting. The Board was informed that at the last meeting the applicant asked the Board to begin working on a decision for the medical and adult recreational marijuana special permit. The draft decision was provided to the Board. This includes comments from Barbara Sainte Andre. A share screen of the draft decision was shown. Attorney Cannon has some questions about the noise provisions since it is his understanding that they will not be able to meet the requirement. There is also a noise testing requirement which the applicant does not agree with. The Applicant was reminded that this application would fall under the proposed noise standards to be considered at the November 15<sup>th</sup> Town Meeting.

Resident Lally was on the Zoom call and communicated that he is in support of the updated language regarding the noise and odor.

There will be language added into the decision about the site's environmental clean-up. This would be placed within the Construction section or it will fall under the purview of the Building Department. The Board would like the applicant to consider reusing roof water for landscape irrigation and for growing.

The decision will need further refinement relative to the findings. This will be done at the meeting to be held on November 23<sup>rd</sup>.

**On a motion made by Jessica Chabot, seconded by Matt Hayes, the Board voted to continue the hearing to November 23, 2021 at 7:00 pm.**

## **MEDWAY PLACE SITE PLAN PUBLIC HEARING CONTINUATION**

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

- Public Hearing Continuation Notice to 10-26-21
- Explanatory letter from Attorney Gareth Orsmond dated 9.30.21 re: revised plan
- Revised site plan dated 8-30-21 by Howard Stein Hudson with Drainage Improvement Plan dated 3-1-21 by Grading Consulting
- PGC Associates plan review letter dated 10-7-21
- Tetra Tech plan review letter dated 10-20-21
- Letter from Attorney Gareth Orsmond dated 10-25-21 responding to the project phasing plan recommended in the Tetra Tech letter

The Chairman opened the continued hearing for Medway Place Site Plan.

Gareth Orsmond, the Applicant's attorney and representative and Gino Carlucci, the Board's consulting planner participated in the meeting via Zoom.

The Board was informed that Attorney Gareth Orsmond provided a letter dated October 25, 2021 regarding the comments in Tetra Tech's review letter dated October 20, 2021. The Applicant's revised plan and summary comments were submitted to the Town on September 30, 2021. Attorney Orsmond communicated that the applicant does not propose a phased project as suggested by Tetra Tech which recommended paving the entire parking lot, along with



completing this work within five years and securing work through performance bonds. The applicant does plan on completing improvement shown on the revised site plan except for the electric vehicle charging stations, which would be within five years. The applicant will double the number of EV charging locations from what is required. Other portions of the parking lot will be repaved when the existing paving reaches the end of its useful life. The applicant has added the noted cover sheet, drainage lay out plan and pavement markings. The entry to the bank has been revised. The traffic arrows will be removed. There is a separate Planting sheet for the plan set with the added shrubs and arborvitaes. There will be a catch basin modification in front of the Bank added.

The Board noted that there has been no mention of the master signage from the DRC. Susy Affleck-Childs noted the DRC will review it at its November 1<sup>st</sup> meeting. This could be included as a condition. Also, no lighting plan submitted. This could be added as a condition. The next topic discussed was traffic. The traffic flow at the northwest corner of the site is shown as two-way traffic. The Board wants to know how the two-way traffic pattern will be handled. The applicant noted that the existing area will be maintained. The applicant recommended putting in an operational plan. The Fire Chief needs to weigh in on this. The applicant does not think this should be one way. The applicant indicated that pavement marking can be done in this location. There needs to be turning movement shown on how the traffic will flow. There also needs to be a plan for drop off and pick up at the child care center and how deliveries will come into the back of the site. The proposed markings do not work with what is presently happening on the ground. The dumpsters are not what is proposed.

The fence between Medway Place and Drybridge Crossing will be a solid fence and was reduced from 6 ft. to 4 ft. at the recommendation of the Design Review Committee. Consultant Carlucci noted that the plan should include a walkable area between the two properties with vehicular connection. There can be a condition that there be a pedestrian connection which can be part of a decision. There is no diagram showing the charging stations. The electric for these will be done underground. This could also be placed as a condition. There are six charging stations with three vehicles for a total of 18. Consultant Carlucci noted that there will need to be a transformer from Eversource for this power. There could be a note on the plan for the future. The requirement is for 9 and the applicant proposes to add nine more. This work may not be for five years.

The Board commended that the main entrance and in particular the existing island is much larger than what is shown on the revised site plan. The existing conditions map is wrong, and the irrigation pump is not shown on the plan. This needs to be fixed to include the landscaping. This extends north of the center separation island. It is at least three parking spaces if not more.

The Board discussed the phasing plan for the site. There is a concern about the patchwork approach the applicant is taking. The applicant is not willing to do an entire re-do of the paving for the entire development. All were in agreement that this needs further discussion.

**On a motion made by Jessica Chabot, seconded by Matt Hayes, the Board voted to continue the hearing to November 9, 2021 at 8:00 pm.**



## **ROCKY'S HARDWARE ADMINISTRATIVE SITE PLAN AND OUTDOOR DISPLAY SPECIAL PERMIT PUBLIC HEARING CONTINUATION**

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

- 10-25-21 memo from Rocky's Vice President Kevin Bradley re: steps taken to address outdoor storage and display issues.
- Draft DENIAL decision dated 10-25-21
- Draft APPROVAL decision dated 10-25-21

The Board at the last meeting asked that Susy Affleck-Childs prepare both an approval and denial decision.

The Applicant's attorney and representative Joel Quick was present via Zoom along with Rocky's Vice President Kevin Bradley. The Board is in receipt of a memo from Rocky's Vice President Kevin Bradley regarding the steps Rocky's has taken to clean up the site since the last meeting (10-12-21). The Chairman communicated that he took photos on October 19, 2021 from and is not satisfied with the progress made to date and expressed concern that the management is not following the rules regarding outside storage.

Board members were asked for a straw poll on a possible vote. The Board is split with three for approval with conditions (Jess Chabot, Matt Hayes and Bob Tucker) and two against approval (Rich Di Iulio and Andy Rodenhiser). The Applicant is frustrated and communicated that at each meeting different issues seem to come up. It was noted that Rocky's representatives communicated that they are not in control of the traffic patterns of other leased businesses, only theirs. Susy will continue to work on both the approval and denial for the next meeting.

It was recommended to discuss this further at the Board's special meeting scheduled for November 2, 2021.

**On a motion made by Matt Hayes, seconded by Jessica Chabot, the Board voted to continue the hearing to November 2, 2021 at 7:30 pm. (Member Di Iulio voted nay)**

### **PEDB MEETING MINUTES:**

The Board is in receipt of the draft minutes of the July 17, 2021 & October 12, 2021 meetings.

**On a motion made by Jessica Chabot, seconded by Matthew Hayes, the Board voted unanimously to accept the minutes from July 17, 2021 & October 12, 2021.**

### **OTHER BUSINESS:**

- Matt Hayes announced will be a CPC meeting on November 1, 2021 to discuss additional funding for the Accessible Trail at the meadows.
- The Master Plan Committee will be holding a joint meeting with the PEDB and the Select Board on January 10, 2022. A first draft of Vision and Goals is being reviewed.



NOTE - Members Chabot and Tucker left the meeting at 10:00 pm.

### **DISCUSSION OF TOWN MEETING ARTICLES:**

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

- Revised Environmental Standards dated 10-18-21
- Revised BESS dated 10-18-21

The Board is in receipt of the proposed articles.

This was shown on a share screen shown of the most recently revised articles dated October 18, 2021.

The recommendation is to have the BESS prohibited in all areas except the energy district. John Lally was present in the discussion and is fine with the yellow noted area as recommended.

### **FUTURE MEETING:**

- November 2, 2021

### **ADJOURN:**

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

The meeting was adjourned at 10:00pm.

Prepared by,  
Amy Sutherland  
Recording Secretary

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





**October 26, 2021**

**Medway Planning & Economic Development Board  
Meeting**

**Marzilli Site Plan Modification Public  
Hearing**

- Draft site plan modification decision dated 10-22-21
- Conservation Commission amended Order of Conditions dated 9-28-21



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



Medway Town Hall  
155 Village Street  
Medway, MA 02053  
Phone (508) 533-3291  
Fax (508) 321-4987  
Email: [planningboard@townofmedway.org](mailto:planningboard@townofmedway.org)  
[www.townofmedway.org](http://www.townofmedway.org)

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

DRAFT – October 22, 2021

***Major Site Plan Modification  
Trotter Drive LLC – 21 Trotter Drive  
R.P. Marzilli & Company  
\_\_\_\_\_ with Conditions***

**Decision Date:** \_\_\_\_\_

**Name/Address of Applicant:  
And Permittee** Trotter Drive LLC  
21 Trotter Drive  
Medway, MA 02053

**Name/Address of Property Owner:** Trotter Drive LLC  
21 Trotter Drive  
Medway, MA 02053

**Engineer:** Engineering Design Consultants, Inc.  
32 Turnpike Road  
Southborough, MA 01772

**Site Plan:** 21 Trotter Drive Site Plan  
Dated April 8, 2019, last revised September 2, 2021

**Location:** 21 Trotter Drive

**Assessors' Reference:** 64-003

**Zoning District:** West Industrial and Groundwater Protection District



**I. BACKGROUND** – This property is the subject of a previously approved major site plan decision and groundwater protection special permit issued by the Planning and Economic Development Board on November 12, 2019. The site plan was endorsed by the Board on January 28, 2020. The approved project included construction of an approximately 6,900 sq. ft. addition to the existing building at 21 Trotter Drive that is occupied and used by R.P. Marzilli & Company for its professional offices. The approved project also included installation of associated site improvements including parking for 129 employee, visitor and company vehicles, stormwater management facilities, lighting, landscaping, an outside materials storage area, and a vehicle refueling facility.

R.P. Marzilli & Company is a full service landscape contractor which has operated at this site since 1998. The property is 11.03 acres in size. The site's access from the existing curb cut at the end of Trotter Drive will remain in place. The existing building is set back approximately 320' feet from Trotter Drive.

**II. SITE PLAN MODIFICATION DESCRIPTION** – The proposed modifications include construction of an enclosed and fully self-contained wash station for on-site cleaning and washing of equipment and vehicles; changes to snow stacking and storage areas; changes in paved areas for equipment storage; reduction in pavement for walkways and parking; inclusion of additional outdoor storage racks; addition of 4 outdoor light posts; adjustments to the landscaping plan; and addition of outdoor amenities including a flag display area, vegetable garden, bocce court, and outdoor meeting terrace. These revisions are shown on *21 Trotter Drive Site Plan*, dated April 8, 2019, last revised September 2, 2021, by Engineering Design Consultants, Inc.

**III. VOTE OF THE BOARD** – After reviewing the application and information gathered during the public hearing and review process, the Medway Planning and Economic Development Board (the "Board"), on October 26, 2021, on a motion made by \_\_\_\_\_ and seconded by \_\_\_\_\_, **voted to** \_\_\_\_\_ **with CONDITIONS** as specified herein, a site plan modification for the construction of an approximately 6,900 sq. ft. building addition and site improvements at 21 Trotter Drive as shown on 21 Trotter Drive Site Plan prepared by Engineering Design Consultants, Inc. of Southborough, MA dated August 6, 2019, last revised September 2, 2021.

The motion was \_\_\_\_\_ by a vote of \_\_\_\_ in favor and \_\_\_\_ opposed.

**Planning & Economic Development Board Member**

**Vote**

Richard Di Iulio  
Jessica Chabot  
Matthew Hayes  
Andy Rodenhiser  
Robert Tucker

**IV. PROCEDURAL HISTORY**

- A. September 20, 2021 - Site plan modification application and associated materials filed with the Board and the Medway Town Clerk.
- B. September 20, 2021 - Public hearing notice mailed to abutters by certified sent mail.



- C. September 21, 2021 - Public hearing notice filed with the Town Clerk and posted at the Town of Medway web site's master meeting calendar.
- D. September 21, 2021 – Site plan information distributed to Town boards, committees and departments for review and comment.
- E. September 27 and October 5, 2021 - Public hearing notice advertised in *Milford Daily News*.
- F. October 12, 2021 - Public hearing commenced. The public hearing was continued to October 26, 2021 when a *Decision* was rendered and the hearing was closed.

## V. **INDEX OF SITE PLAN MODIFICATION DOCUMENTS**

- A. The application materials for the proposed modification to the previously approved site plan included the following documents provided at the time the modification application was filed with the Board.
  - 1. Site Plan Modification Application dated 9-2-21 with a project description letter dated 9-2-21 from project engineer Peter Bemis and a certified abutters' list.
  - 2. *21 Trotter Drive – A Site Plan in Medway, MA* dated April 8, 2019, revised September 2, 2021 prepared by Engineering Design Consultants, Inc. of Southborough, MA
  - 3. *Pavement Comparison from Approved Plan – 21 Trotter Drive* drawing dated 9-9-21 prepared by Engineering Design Consultants, Inc.
- B. During the course of review, the following document was submitted to the Board by the Applicant and its representatives:
  - 1. Supplemental submittal letter dated 9-2-21 from attorney Jerry Effren.
- C. During the course of the Board's review, the following documents were provided to the Board by its staff, consultants, and other Town Boards and Committees.
  - 1. Plan review letter dated 10-7-21 from Steve Bouley, P.E. Tetra Tech, the Board's consulting engineer
  - 2. Amendment to the previously issued Order of Conditions authorized by the Conservation Commission, dated September 28, 2021

## V. **TESTIMONY** - In addition to the site plan modification application materials as submitted and provided during the course of the Board's review, the Board also received verbal or written testimony from:

- Steve Bouley, P.E. of Tetra Tech, Inc., the Town's Consulting Engineer
- Robert Marzilli, owner of R.P. Marzilli & Co.
- Peter Bemis of Engineering Design Consultants, Inc. the Applicant's engineering consultant

## VI. **FINDINGS** – The Board, at its meeting on October 26, 2021, on a motion made by \_\_\_\_\_ and seconded by \_\_\_\_\_ voted to \_\_\_\_\_ the following



**FINDINGS** regarding the proposed site plan modification for 21 Trotter Drive. The motion was \_\_\_\_\_ by a vote of \_\_\_\_ in favor and \_\_\_\_\_ opposed.

<b>Planning &amp; Economic Development Board Member</b>	<b>Vote</b>
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Richard Di Iulio	
Jessica Chabot	
Matthew Hayes	
Andy Rodenhiser	
Robert Tucker	

**Findings**

- (1) The proposed site plan modifications have been reviewed by Tetra Tech, the Board's consulting engineer. A review letter dated October 7, 2021 was provided has been provided. In summary, the letter indicates that the proposed modifications are satisfactory.
- (2) The proposed site modifications were also subject to review by the Medway Conservation Commission which approved an amendment to the previously issued Order of Conditions for the project on September 28, 2021

**VII. CONDITIONS** - The Board's issuance of a site plan modification approval is subject to the following conditions.

- A. **Plan Endorsement** - Within sixty (60) days after the Board has filed the *Site Plan Modification Decision* with the Town Clerk, the site plan for the R.P. Marzilli & Co building expansion project at 21 Trotter Drive dated April 8, 2019, last revised September 12, 2021 prepared by Engineering Design Consultants, Inc. of Southborough, MA shall be submitted to the Board for endorsement. (*Said plan is hereinafter referred to as the Plan*). The Applicant shall provide a Mylar set of the revised Plan in its final form to the Board for its signature/endorsement. All Plan sheets shall be bound together in a complete set.
- B. **Limitations** – All previously specified use limitations and general and specific conditions included in the original decision remain in effect.
- C. **As-Built Plan** – The approved site plan modifications shall be shown on the as-built plan to be submitted upon project completion.

**VIII. APPEAL** The Board and the Applicant have complied with all statutory requirements for the issuance of this *Decision* on the terms set forth herein. A copy of this *Decision* will be filed with the Medway Town Clerk and mailed to the Applicant/Permittee and notice will be mailed to all parties in interest as provided in G.L. c. 40A §15.

Any person aggrieved by the *Decision* of the Board may appeal to the appropriate court pursuant to Massachusetts General Laws, Chapter 40A, §17, and shall be filed within twenty days after the filing of this *Decision* in the office of the Medway Town Clerk.

In accordance with G.L. c. 40A, §11, no special permit shall take effect until a copy of the *Decision* is recorded in the Norfolk County Registry of Deeds, and indexed in the grantor index under the name of the owner of record, or is recorded and noted on the owner's certificate of



title, bearing the certification of the Town Clerk that twenty days have elapsed after the *Decision* has been filed in the office of the Town Clerk and no appeal has been filed within said twenty day period, or that an appeal has been filed. The person exercising rights under a duly appealed special permit does so at risk that a court will reverse the permit and that any construction performed under the permit may be ordered undone. The fee for recording or registering shall be paid by the Permittee. A copy of the recorded *Decision*, and notification by the Permittee of the recording, shall be furnished to the Board.

###



**Medway Planning and Economic Development Board  
SITE PLAN MODIFICATION DECISION  
Trotter Drive LLC, 21 Trotter Drive**

Approved by the Medway Planning & Economic Development Board: \_\_\_\_\_

**AYE:**

**NAY:**

\_\_\_\_\_  
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**ATTEST:**

\_\_\_\_\_  
Susan E. Affleck-Childs  
Planning & Economic Development Coordinator

\_\_\_\_\_  
Date

**COPIES TO:** Michael Boynton, Town Administrator  
Bridget Graziano, Conservation Agent  
Donna Greenwood, Assessor  
Beth Hallal, Health Agent  
Jeff Lynch, Fire Chief  
Jack Mee, Building Commissioner and Zoning Enforcement Officer  
Pete Pelletier, DPW Director  
Barbara Saint Andre, Director of Community and Economic Development  
Joanne Russo, Treasurer/Collector  
Jeff Watson, Police Department Safety Officer  
Robert Marzilli, R.P. Marzilli & Company  
Peter Bemis, Engineering Design Consultants  
Steven Bouley, Tetra Tech



Commission Members  
David Travalini, Chair  
Ken McKay  
David Blackwell  
Dayna Gill  
Tara Kripowicz  
Michael Narducci



Medway Town Hall  
155 Village Street  
Medway, MA 02053  
Telephone (508) 533-3292  
bgraziano@townofmedway.org

# TOWN OF MEDWAY

## COMMONWEALTH OF MASSACHUSETTS

### CONSERVATION COMMISSION

September 28, 2021

Robert Marzilli  
RP Marzilli  
21 Trotter Drive  
Medway, MA 02053

Dear Mr. Marzilli,

The Medway Conservation Commission received document requesting an Amendment to the existing Order of Conditions DEP #216-0937 on September 9, 2021, asking for this request to be added as a discussion at the next public meeting. You have proposed to change to the original approved plans and the Order of Conditions, dated September 30, 2019. This discussion was scheduled for you to appear before the Commission at the September 23, 2021, public meeting. Where the Medway Conservation Commission voted to accept the proposed amendment as a minor amendment under Section 16.01, with the following findings;

1. The applicant proposes to amend the original approved plan and Order to add a washing bay with tight tanks for wash water storage. The proposed amendment is within the original approved limit of work and there is no additional encroachment into wetland resource or the buffer zones. Therefore, the Conservation Commission approves this amendment as a minor amendment to the approved site plan.
2. All proposed amendments shall not adversely affect any wetland resource protected under the Massachusetts Wetlands Protection Act and the Medway General Bylaw, Article XXI and its Regulations.

The Commission shall amend the following conditions within the approved Order of Conditions, dated September 30, 2019.

1. The Commission voted to add the proposed wash bay to the original Order of Conditions (DEP Form 5) DEP #216-0937 and the issued Bylaw Part II – Order of Conditions. This does not amend the existing plan approved site plan titled, “21 Trotter Drive A Site Plan in Medway, MA” by Engineering Design Consultants, Inc. dated August 28, 2019, final revision January 20, 2020. It is to add plan titled, “Pavement Comparison from Approved Plan” by EDC Consultants, dated September 17, 2021 and add plans set titled, “21 Trotter Drive A Site Plan in Medway, MA” by Engineering Design Consultants, Inc. dated August 28, 2019, final revision January 20, 2020 dated September 2, 2021.
2. The applicant shall add 8” compost sock on the pavement at the limit of work. The location of the compost sock shall be determined by the Agent and/or the Commission during a site visit with the applicant. The erosion control shall be set in place and reviewed by the Agent prior to the commencement of this portion of the proposed work.

The Medway Conservation Commission staff would be glad to set up an appointment to review the Order of Conditions with you prior to the commencement of proposed work. Our office is open Monday - Thursday 7:30 am



– 4:30 pm and Friday 7:30 am - 12:30 pm or by appointment. You may contact the Conservation office with any questions you may have at (508) 533-3292.

Thank you,

Bridget R. Graziano, Conservation Agent  
Medway Conservation Commission





**October 26, 2021**

**Medway Planning & Economic Development Board  
Meeting**

**Construction Reports**

- Medway Mill - Tetra Tech report #2, dated 10-22-21
- Harmony Village
  - Tetra Tech report #5, dated 10-19-21
  - Tetra Tech report #6, dated 10-21-21
  - Tetra Tech report #7, dated 10-22-21
  - Tetra Tech report #8, dated 10-25-21



Tetra Tech  
100 Nickerson Road, Suite 200  
Marlborough, MA 01752

# FIELD REPORT

Project Medway Mills	Date 10/22/2021	Report No. 1
Location 165 Main Street, Medway, MA	Project No. 143-21583-20011	Sheet 1 of 2
Contractor Peter McCarthy (Site Contractor) John Greene (Developer)	Weather A.M. P.M. CLEAR	Temperature A.M. P.M. 65°F

## FIELD OBSERVATIONS

On Friday, October 22, 2021, Bradley M. Picard, EIT from Tetra Tech (TT) visited the project location to inspect the current condition of the site and monitor construction progress. The following report outlines observations made during the site visit.

### 1. OBSERVATIONS

- A. Site Conditions/Erosion Controls: Dry ground surface that is firm throughout. Construction entrance has been installed at the driveway off Lincoln Street, driveway is clean and free of sediment. Silt fence barrier (SFB) and compost filter socks have been installed along the perimeter of the site and appear to be in good condition. Additional erosion controls have been installed at the small unpaved parking area at the north corner of the site. Trees proposed to be preserved throughout the site have been marked with flagging. Stockpiles of excavated material, cleared trees, and stumps have been stockpiled throughout the site.
- B. The contractor is currently completing clearing and earthwork activities within the proposed limit of work.

CONTRACTOR'S FORCE AND EQUIPMENT						WORK DONE BY OTHERS	
Sup't		Bulldozer		Asphalt Paver		Dept. or Company	Description of Work
Foreman		Backhoe		Asphalt Reclaimer			
Laborers		Loader	1	Vib. Roller			
Drivers		Rubber Tire Backhoe/Loader		Static Roller			
Oper. Engr.	2	Skid Steer		Vib. Walk Comp.			
Carpenters		Hoeram		Compressor			
Masons		Excavator	2	Jack Hammer			
Iron Workers		Grader		Power Saw			
Electricians		Crane		Conc. Vib.			
Flagpersons		Scraper		Tack Truck			
Surveyors		Conc. Mixer		Man Lift			
Roofers		Conc. Truck		Skidder		OFFICIAL VISITORS TO JOB	
Mechanical/HVAC		Conc. Pump Truck		Compact Track Loader			
		Pickup Truck	2				
		Tri-Axle Dump Truck					
		Trailer Dump Truck					
Police Details:						RESIDENT REPRESENTATIVE FORCE	
Contractor's Hours of Work: 7:00 A.M. to 6:00 P.M.						Name	Time on-site
						Bradley M. Picard, EIT	10:30 A.M. – 11:00 A.M.

NOTE: Please use reverse side for remarks and sketches



Project Medway Mills	Date 10/22/2021	Report No. 1
Location 165 Main Street, Medway, MA	Project No. 143-21583-20011	Sheet 2 of 2

## ***FIELD OBSERVATIONS CONTINUED***

### **2. SCHEDULE**

A. TT will maintain communication with the developer and will inspect the site on an as-need basis.

### **3. NEW ACTION ITEMS**

A. N/A

### **4. PREVIOUS OPEN ACTION ITEMS**

A. N/A

### **5. MATERIALS DELIVERED TO SITE SINCE LAST INSPECTION**

A. N/A



Tetra Tech  
100 Nickerson Road, Suite 200  
Marlborough, MA 01752

# FIELD REPORT

Project Harmony Village	Date 10/19/2021	Report No. 5
Location 218-220 Main Street, Medway, MA	Project No. 143-21583-20018	Sheet 1 of 2
Contractor Gary Feldman, Marcelo Alves (Applicant/Developer)	Weather A.M. P.M. SUNNY	Temperature A.M. P.M. 55°F

## FIELD OBSERVATIONS

On Tuesday, October 19, 2021, Bradley M. Picard, E.I.T. from Tetra Tech (TT) visited the project location to inspect the current condition of the site and monitor construction progress. The following report outlines observations made during the site visit.

### 1. OBSERVATIONS

- Site Conditions/Erosion Controls: Dry ground surface that is firm throughout. Compost filter socks have been installed along the Western and Southern portions of the site and appear to be in good condition. The remaining portions of the site slopes towards the temporary basin adjacent to the construction entrance and appears to be functioning as expected. Stockpiles of excavated material are present near proposed temporary stockpile area.
- Upon inspection, contractor is excavating limits of proposed subsurface infiltration system DW-2. Contractor has excavated to approximate bottom of system, elevations are verified using a rotary laser level. Material present in the excavation is consistent with the test pit data provided in the Stormwater Report. Contractor has encountered bedrock along the north side of the excavation, removal is scheduled for Thursday (10/21). Per Volume 2 of the Stormwater Handbook, all bedrock shall be removed to a minimum two feet below the proposed bottom of the system. The Applicant shall provide a mounding analysis to reflect the depth to rock conditions found in the field.
- Water service has been installed into the site towards Units #4 and #5. Hydrant has been installed adjacent to DW-2 and curb stops have been installed adjacent to foundations. Foundations for Unit #5 and Unit #6 has been backfilled on all sides.

CONTRACTOR'S FORCE AND EQUIPMENT					WORK DONE BY OTHERS	
Sup't		Bulldozer		Asphalt Paver	Dept. or Company	Description of Work
Foreman		Backhoe		Asphalt Reclaimer		
Laborers	1	Loader		Vib. Roller		
Drivers	1	Rubber Tire Backhoe/Loader		Static Roller		
Oper. Engr.	1	Skid Steer		Vib. Walk Comp.		
Carpenters		Hoeram		Compressor		
Masons		Excavator	1	Jack Hammer		
Iron Workers		Grader		Power Saw		
Electricians		Crane		Conc. Vib.		
Flagpersons		Scraper		Tack Truck		
Surveyors		Conc. Mixer		Man Lift		
Roofers		Conc. Truck		Skidder	OFFICIAL VISITORS TO JOB	
Mechanical/HVAC		Conc. Pump Truck		Compact Track Loader		
		Pickup Truck	2	Well Drilling Rig		
		Tri-Axle Dump Truck	1			
		Trailer Dump Truck				
Police Details: N/A					RESIDENT REPRESENTATIVE FORCE	
Contractor's Hours of Work: 7:00 A.M. to 6:00 P.M.					Name	Time on-site
					Bradley M. Picard, EIT	1:30 P.M. – 1:30 P.M.

NOTE: Please use reverse side for remarks and sketches



Project Harmony Village	Date 10/19/2021	Report No. 5
Location 218-220 Main Street, Medway, MA	Project No. 143-21583-20018	Sheet 2 of 2

## ***FIELD OBSERVATIONS CONTINUED***

### **2. SCHEDULE**

- A. Contractor to continue installation of DW-2.
- B. TT will maintain communication with the Developer and will inspect the site on an as-needed basis.

### **3. NEW ACTION ITEMS**

- A. Applicant shall provide mounding analysis for Infiltration System DW-2.

### **4. PREVIOUS OPEN ACTION ITEMS**

- A. N/A

### **5. MATERIALS DELIVERED TO SITE SINCE LAST INSPECTION**

- A. N/A



Tetra Tech  
100 Nickerson Road, Suite 200  
Marlborough, MA 01752

# FIELD REPORT

Project Harmony Village	Date 10/21/2021	Report No. 6
Location 218-220 Main Street, Medway, MA	Project No. 143-21583-20018	Sheet 1 of 2
Contractor Gary Feldman, Marcelo Alves (Applicant/Developer)	Weather A.M. P.M. SUNNY	Temperature A.M. P.M. 70°F

## FIELD OBSERVATIONS

On Thursday, October 21, 2021, Bradley M. Picard, E.I.T. from Tetra Tech (TT) visited the project location to inspect the current condition of the site and monitor construction progress. The following report outlines observations made during the site visit.

### 1. OBSERVATIONS

- A. Site Conditions/Erosion Controls: Dry ground surface that is firm throughout. Compost filter socks have been installed along the Western and Southern portions of the site and appear to be in good condition. The remaining portions of the site slopes towards the temporary basin adjacent to the construction entrance and appears to be functioning as expected. Stockpiles of excavated material are present near proposed temporary stockpile area.
- B. TT on-site to inspect bedrock removal from the limit of proposed infiltration basin DW-2. Contractor has removed all bedrock within the excavation to 2 feet below the proposed bottom of the system. Cobbles and stones greater than 3" also appear to have been removed from the excavation. Contractor to begin placing filter fabric along the walls of the excavation, installing crushed stone base, and installing Cultec C-100 heavy duty chambers tomorrow (10/22).

CONTRACTOR'S FORCE AND EQUIPMENT					WORK DONE BY OTHERS	
Sup't	1	Bulldozer		Asphalt Paver	Dept. or Company	Description of Work
Foreman		Backhoe		Asphalt Reclaimer		
Laborers		Loader		Vib. Roller		
Drivers		Rubber Tire Backhoe/Loader		Static Roller		
Oper. Engr.		Skid Steer		Vib. Walk Comp.		
Carpenters		Hoeram		Compressor		
Masons		Excavator	1	Jack Hammer		
Iron Workers		Grader		Power Saw		
Electricians		Crane		Conc. Vib.		
Flagpersons		Scraper		Tack Truck		
Surveyors		Conc. Mixer		Man Lift		
Roofers		Conc. Truck		Skidder	OFFICIAL VISITORS TO JOB	
Mechanical/HVAC		Conc. Pump Truck		Compact Track Loader		
		Pickup Truck		Well Drilling Rig		
		Tri-Axle Dump Truck				
		Trailer Dump Truck				
Police Details: N/A					RESIDENT REPRESENTATIVE FORCE	
Contractor's Hours of Work: 7:00 A.M. to 6:00 P.M.					Name	Time on-site
					Bradley M. Picard, EIT	3:00 P.M. – 3:30 P.M.

NOTE: Please use reverse side for remarks and sketches



Project Harmony Village	Date 10/21/2021	Report No. 6
Location 218-220 Main Street, Medway, MA	Project No. 143-21583-20018	Sheet 2 of 2

## ***FIELD OBSERVATIONS CONTINUED***

### **2. SCHEDULE**

- A. Contractor to continue installation of DW-2.
- B. TT will maintain communication with the Developer and will inspect the site on an as-needed basis.

### **3. NEW ACTION ITEMS**

- A. N/A

### **4. PREVIOUS OPEN ACTION ITEMS**

- A. Applicant shall provide mounding analysis for Infiltration System DW-2.

### **5. MATERIALS DELIVERED TO SITE SINCE LAST INSPECTION**

- A. N/A



Tetra Tech  
100 Nickerson Road, Suite 200  
Marlborough, MA 01752

# FIELD REPORT

Project Harmony Village	Date 10/22/2021	Report No. 7
Location 218-220 Main Street, Medway, MA	Project No. 143-21583-20018	Sheet 1 of 2
Contractor Gary Feldman, Marcelo Alves (Applicant/Developer)	Weather A.M. SUNNY P.M.	Temperature A.M. 65°F P.M.

## FIELD OBSERVATIONS

On Friday, October 22, 2021, Bradley M. Picard, E.I.T. from Tetra Tech (TT) visited the project location to inspect the current condition of the site and monitor construction progress. The following report outlines observations made during the site visit.

### 1. OBSERVATIONS

- Site Conditions/Erosion Controls: Dry ground surface that is firm throughout. Compost filter socks have been installed along the Western and Southern portions of the site and appear to be in good condition. The remaining portions of the site slopes towards the temporary basin adjacent to the construction entrance and appears to be functioning as expected. Stockpiles of excavated material are present near proposed temporary stockpile area.
- TT on-site to inspect stone and chamber installation for proposed infiltration system DW-2. Upon arrival, stone has not been delivered to the site and contractor is waiting for the delivery to begin stone placement within the trench. Additional stone will be placed at the over-excavated regions where bedrock was removed to maintain proposed system elevations. Contractor to contact TT once stone base has been placed and chambers have been set to verify the number of chambers is consistent with the endorsed Plan.
- During the site visit, the contractor informed TT that installation of drainage structures and pipe within the driveway is complete. Structures have been either covered with steel plates or buried under the subbase. TT was neither notified nor on-site to inspect the construction and contractor should submit any photos taken during the drainage installation for review by TT to ensure the contractor followed the endorsed Plans.

CONTRACTOR'S FORCE AND EQUIPMENT					WORK DONE BY OTHERS	
Sup't	1	Bulldozer		Asphalt Paver	Dept. or Company	Description of Work
Foreman		Backhoe		Asphalt Reclaimer		
Laborers		Loader		Vib. Roller		
Drivers		Rubber Tire Backhoe/Loader		Static Roller		
Oper. Engr.		Skid Steer		Vib. Walk Comp.		
Carpenters		Hoeram		Compressor		
Masons		Excavator	1	Jack Hammer		
Iron Workers		Grader		Power Saw		
Electricians		Crane		Conc. Vib.		
Flagpersons		Scraper		Tack Truck		
Surveyors		Conc. Mixer		Man Lift		
Roofers		Conc. Truck		Skidder	OFFICIAL VISITORS TO JOB	
Mechanical/HVAC		Conc. Pump Truck		Compact Track Loader		
		Pickup Truck		Well Drilling Rig		
		Tri-Axle Dump Truck				
		Trailer Dump Truck				
Police Details: N/A					RESIDENT REPRESENTATIVE FORCE	
Contractor's Hours of Work: 7:00 A.M. to 6:00 P.M.					Name	Time on-site
					Bradley M. Picard, EIT	10:00 A.M. – 10:30 A.M.

NOTE: Please use reverse side for remarks and sketches



Project Harmony Village	Date 10/22/2021	Report No. 7
Location 218-220 Main Street, Medway, MA	Project No. 143-21583-20018	Sheet 2 of 2

## ***FIELD OBSERVATIONS CONTINUED***

### **2. SCHEDULE**

- A. Contractor to continue installation of DW-2.
- B. TT will maintain communication with the Developer and will inspect the site on an as-needed basis.

### **3. NEW ACTION ITEMS**

- A. Contractor shall provide photos of drainage installation for TT review.

### **4. PREVIOUS OPEN ACTION ITEMS**

- A. Applicant shall provide mounding analysis for Infiltration System DW-2.

### **5. MATERIALS DELIVERED TO SITE SINCE LAST INSPECTION**

- A. N/A



Tetra Tech  
100 Nickerson Road, Suite 200  
Marlborough, MA 01752

# FIELD REPORT

Project Harmony Village	Date 10/25/2021	Report No. 8
Location 218-220 Main Street, Medway, MA	Project No. 143-21583-20018	Sheet 1 of 2
Contractor Gary Feldman, Marcelo Alves (Applicant/Developer)	Weather A.M. OVERCAST P.M.	Temperature A.M. 50°F P.M.

## FIELD OBSERVATIONS

On Monday, October 25, 2021, Bradley M. Picard, E.I.T. from Tetra Tech (TT) visited the project location to inspect the current condition of the site and monitor construction progress. The following report outlines observations made during the site visit.

### 1. OBSERVATIONS

- A. Site Conditions/Erosion Controls: Dry ground surface that is firm throughout, some soft spots from rainfall overnight. Compost filter socks have been installed along the western and southern portions of the site and appear to be in good condition. The remaining portions of the site slopes towards the temporary basin adjacent to the construction entrance and appears to be functioning as expected. Stockpiles of excavated material are present near proposed temporary stockpile area.
- B. TT on-site to inspect stone and chamber installation for proposed infiltration system DW-2. Contractor has installed 3/4" clean, crushed stone for the base of DW-2 and installed 55 Cultec C-100 chambers as shown on the endorsed Plan. The contractor has installed the crushed stone and chambers prior to laying out filter fabric along the walls of the excavation. TT recommended to move 6" of stone by hand away from the excavation wall, place the filter fabric along the walls and stone, and return the crushed stone back onto the filter fabric to ensure the stone base is protected from sediment intrusion. Contractor to also install two inspection ports, one at either corner of the system, prior to backfilling with stone.

CONTRACTOR'S FORCE AND EQUIPMENT					WORK DONE BY OTHERS	
Sup't	1	Bulldozer		Asphalt Paver	Dept. or Company	Description of Work
Foreman		Backhoe		Asphalt Reclaimer		
Laborers	2	Loader		Vib. Roller		
Drivers		Rubber Tire Backhoe/Loader		Static Roller		
Oper. Engr.		Skid Steer		Vib. Walk Comp.		
Carpenters		Hoeram		Compressor		
Masons		Excavator	1	Jack Hammer		
Iron Workers		Grader		Power Saw		
Electricians		Crane		Conc. Vib.		
Flagpersons		Scraper		Tack Truck		
Surveyors		Conc. Mixer		Man Lift		
Roofers		Conc. Truck		Skidder	OFFICIAL VISITORS TO JOB	
Mechanical/HVAC		Conc. Pump Truck		Compact Track Loader		
		Pickup Truck	2	Well Drilling Rig		
		Tri-Axle Dump Truck				
		Trailer Dump Truck				
Police Details: N/A					RESIDENT REPRESENTATIVE FORCE	
Contractor's Hours of Work: 7:00 A.M. to 6:00 P.M.					Name	Time on-site
					Bradley M. Picard, EIT	9:15 A.M. – 9:45 A.M.

NOTE: Please use reverse side for remarks and sketches



Project Harmony Village	Date 10/25/2021	Report No. 8
Location 218-220 Main Street, Medway, MA	Project No. 143-21583-20018	Sheet 2 of 2

## ***FIELD OBSERVATIONS CONTINUED***

### **2. SCHEDULE**

- A. Contractor to continue installation of DW-2.
- B. TT will maintain communication with the Developer and will inspect the site on an as-needed basis.

### **3. NEW ACTION ITEMS**

- A. N/A

### **4. PREVIOUS OPEN ACTION ITEMS**

- A. Applicant shall provide mounding analysis for Infiltration System DW-2.
- B. Contractor shall provide photos of drainage installation for TT review.

### **5. MATERIALS DELIVERED TO SITE SINCE LAST INSPECTION**

- A. N/A





**October 26, 2021**

**Medway Planning & Economic Development Board  
Meeting**

**Correspondence**

- PEDB letter dated 10-20-21 to ZBA re: Shaw's signage variance petition
- Report on Impacts of e-Commerce from MAPC, February 2021
- Article on e-Commerce by MAPC staff from October 2021 MA Planning magazine



### **Board Members**

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



Medway Town Hall  
155 Village Street  
Medway, MA 02053  
Phone (508) 533-3291  
Fax (508) 321-4987  
Email: [planningboard@townofmedway.org](mailto:planningboard@townofmedway.org)  
[www.townofmedway.org](http://www.townofmedway.org)

## **TOWN OF MEDWAY** **COMMONWEALTH OF MASSACHUSETTS**

### **PLANNING AND ECONOMIC DEVELOPMENT BOARD**

### **MEMORANDUM**

October 19, 2021

TO: Zoning Board of Appeals  
FROM: Susy Affleck-Childs, Planning and Economic Development Coordinator  
RE: Variance petition for Shaw's signage at 65 Main Street

Thank you for the opportunity for the Planning and Economic Development Board (PEDB) to comment on the recent petition of Shaw's Supermarkets to the Zoning Board of Appeals for a variance for a proposed additional sign at its location in Medway at 65 Main Street in the Medway Commons shopping center. Shaw's is represented by I.D. Sign Group of South Easton, MA. We understand this petition will be considered at the ZBA's October 20, 2021 meeting.

At its October 12, 2021 meeting, the PEDB reviewed and discussed the petition as supplied to the Board on September 30, 2021 with clarifying information provided on October 12, 2021. NOTE - On October 14th, the Applicant provided supplemental information to the Community and Economic Development office which documents the total amount of existing signage for the Shaw's Medway location. This information had been requested on September 28, 2021 by Barbara Saint Andre, Director of Community and Economic development.

The applicant seeks variances from Section 7.2 of the *Zoning Bylaw* to install a 17.4 sq. ft. internally illuminated graphic logo with associated dimensional lettering on Shaw's west façade facing the parking lot. The sign would be positioned on the façade gable above the store's main (northern) entrance. The primary purpose of the sign is to denote the location for Shaw's new Drive UP & GO grocery pick-up service; this additional signage is being rolled out at Shaw's locations throughout the region. The addition of this sign would exceed both the total number of signs allowed (three for a free-standing establishment) and the maximum amount of allowed sign surface area (120 sq. ft.) in the Central Business zoning district. Shaw's current signage already does not conform to those provisions of the *Zoning Bylaw*, Table 5 in Section 7.2 Signs.

The PEDB identified the following issues regarding the Shaw's proposal:

- Concern that this particular location for the pick-up service may result in some safety issues, particularly for pedestrians accessing the store's main entrance in the same location where the pick-up service is to be located.



- The Board believes the total amount of sign surface area comprised by the existing store signs already exceeds the maximum allowed although it did not have the precise information to verify at the time of its October 12<sup>th</sup> meeting.

NOTE – The existing signage details are now known and are as follows:

1. Main Shaw's sign – 176 sq. ft. (Allowed in 2016 as a replacement sign without a variance when STAR Market changed to Shaw's)
2. Produce, Seafood and Flowers signs @ 6 sq. ft. each = 18 sq. ft.
3. Delicatessen sign @ 10 sq. ft.

TOTAL = 204 sq. ft.

- With Shaw's primary wall sign and the series of dimensionally lettered signs noting Seafood, Delicatessen, Produce, and Flowers, the business already has more signs than the maximum number allowed and is presently non-conforming. If the ZBA is inclined to approve the new sign, perhaps the dimensionally lettered product signs could be removed as it is not really necessary to have signage about products and services that are readily and commonly understood to be provided by any major grocery store.



# Hidden and in Plain Sight: Impacts of E-Commerce in Massachusetts





## ► Authors

**Primary Authors:** Alison Felix, AICP, Senior Transportation Planner & Emerging Technologies Specialist; Travis Pollack, AICP, Senior Transportation Planner

**Contributors:** Eric Bourassa, Director of Transportation; Josh Eichen, Senior Economic Development Planner; Alyssa Kogan, Regional Planning Data Analyst; Lily Perkins-High, Analytical Services Manager; Tim Reardon, Director of Data Services; Kit Un, Visual Designer

**Editor:** Karen Adelman, Senior Communications Strategist

**MAPC Director:** Marc Draisen, Executive Director

A special thank you to Eric Bourassa and Tim Reardon for their guidance and feedback.

Thank you to Karen Hollinger, AvalonBay; Bill Kuttner, Central Transportation Planning Staff; Mark Giuffre, UPS; James Fitzgerald and Tad Read, City of Boston; Melissa Santucci-Rozzi, Town of Braintree; Jeremy Rosenberger, Town of Dedham; Robert O'Brien, City of Revere. Thank you also to the members of the South West Advisory Planning Committee and MetroWest Regional Collaborative subregions of MAPC for their feedback during presentations on this topic by the authors.

## ► About MAPC and this Report

The Metropolitan Area Planning Council (MAPC) is the regional planning agency for the 101 cities and towns of Greater Boston. Our mission is to promote smart growth and regional collaboration.

Today, the Commonwealth is seeing rising numbers of delivery trucks and vans on the roadway network as people increasingly ordering online for goods, meals, and groceries. For these deliveries to arrive timely each day, a sophisticated logistics network of warehouses, distribution centers, and delivery vehicles needs to be in place. While the effects of this growing form of retail on the roadway network may be noticeable, e-commerce is also having effects on land use, traditional retail, and employment which are not as directly apparent.

MAPC has undertaken *Hidden and in Plain Sight: Impacts of E-Commerce in Massachusetts* to better understand how e-commerce affects the region's communities, and to provide a resource for municipalities and policy makers grappling with the rapid growth and multiplying impacts of this expanding form of retail.

This report concentrates primarily on the transportation and land use effects of increasing online shopping, highlighting key trends both nationally and in Massachusetts. We suggest directions for further research, and we put forward potential policies that could help communities sustainably manage the growth in warehousing and distribution centers and its associated delivery traffic.

MAPC intends to serve as a resource for continued information sharing and findings from e-commerce surveys and pilot programs and conduct research on how municipalities in Massachusetts are currently mitigating and managing the impacts of warehouse and distribution centers. As a follow up to this report, MAPC plans to collaborate with municipalities to develop a playbook on the management of e-commerce warehouse and distribution centers as a resource for other municipalities. Please e-mail [ecommerce@mapc.org](mailto:ecommerce@mapc.org) with relevant information or to be informed of future initiatives.





# Executive Summary

## E-Commerce Today

E-commerce – the buying and selling of goods or services via the internet, and the transfer of money and data to complete the sale – is a \$600 billion industry in the United States, comprising approximately 14 percent of total retail sales.<sup>1,2</sup> In 2019, Amazon alone delivered about 2.5 billion packages in the United States, an estimated 20 packages for every household.<sup>3</sup> In the first 9 months of 2020, which forced many to remain at home due to the pandemic, e-commerce sales increased 34 percent. The increasing availability and use of next-day and same-day deliveries and the growth in restaurant deliveries via third-party apps such as Uber Eats also fueled this rapid growth.



Despite its impressive growth, e-commerce currently represents less than a fifth of total retail sales. Yet its impacts on traffic, employment, and land development are already apparent across the U.S. In Massachusetts, the impacts of e-commerce can be seen in shifts in employment and in the growth of warehouse and distribution centers. The state's non-store retail employment – which includes online retail occupations – grew 64 percent from 2010 to 2019, while its employment in transportation and warehousing increased 30 percent. During this same period, traditional retail employment numbers in Massachusetts remained relatively flat.

The rapid growth of e-commerce has had widespread effects, especially on transportation networks and land use. These impacts include increased traffic and emissions from delivery vehicles, greater competition for curb space during deliveries, and greater demand for land for warehouse and distribution centers. Amazon, the world's largest retailer, has 34 facilities either operating or proposed in Massachusetts. Once all facilities are operational, the Amazon footprint in Massachusetts will comprise over 12 million square feet of warehouse and distribution space.<sup>4</sup>

A significant component of e-commerce is restaurant delivery and the purchase of prepared meals.<sup>5</sup> Nationwide, transactions from services such as DoorDash, Grubhub, Uber Eats, and Postmates increased approximately 200 percent between 2015 and 2020, generating an estimated \$26 billion in revenue in 2020.<sup>6</sup> Online grocery sales for home delivery and pickup reached \$5.9 billion in November 2020, a threefold increase from August 2019. The volume of orders has more than tripled to almost 63 million, and the number of customers has more than doubled to nearly 39 million during this period. There is also an increase in the average amount of spending per order and shopping frequency.<sup>7</sup> Many industry experts believe that the consumer shift to online grocery delivery and pickup will continue even beyond the COVID-19 pandemic.<sup>8,9</sup>

There are also equity concerns, including whether low-income neighborhoods and communities of color are disproportionately bearing the traffic, noise, and air pollution from distribution facilities, and whether the shift from traditional retail jobs to warehousing and deliveries is having a greater impact on certain subsets of the population, especially in regard to employment, wages, benefits, and working hours.

Other impacts include reduced spending and associated employment and tax-revenue generation at brick-and-mortar retail stores, and the possible erosion of job security due to a shift toward the use of contractors for deliveries.



Of course, not every effect of e-commerce is negative. The online retail business model and economies of scale have lowered prices for many consumer goods, and have enabled home-bound and carless residents to purchase goods, services, and foods that might otherwise be unavailable to them. Unfortunately, a lack of reliable data makes assessing impacts difficult and complicates the task of managing e-commerce to ensure greater equity and sustainability in the region.

## Transportation Impacts

In response to the needs of e-commerce, the supply chain has expanded and evolved. It is now a vast network of interconnected facilities that can terminate not at a store, but at the consumer's home.<sup>10</sup> The resulting increase in delivery-vehicle traffic affects the region's transportation network.

Since 2010, total Vehicle Miles Traveled (VMT) nationwide has grown nine percent overall, with a 13 percent increase in urban areas. In Massachusetts, between 2010 and 2019, total VMT grew 19 percent statewide and 23 percent in urban areas.<sup>11</sup> Some of this can be attributed to recovery from the Great Recession, but there is also evidence that e-commerce and the widespread adoption of ride-hailing services are contributing to the growth and its impacts.



It is difficult to determine the extent to which e-commerce deliveries may be replacing vehicle trips for shopping. In theory, a consolidated delivery system of e-commerce could reduce VMT as compared to individual households making their own shopping trips in cars. The reality is more complex. A single online order may arrive in multiple shipments. Thirty percent of online orders are returned, and 15 percent never make it to the correct address on the first delivery attempt.

At least one survey suggests, perhaps counterintuitively, that the more in-store shopping trips a household conducts per week, the more weekly online packages the household receives. Moreover, higher-income households are more likely to pay for expedited or same-day deliveries. These services have relatively greater traffic impacts, since expedited deliveries are typically shipped in a single package and are less likely to be consolidated with other packages for delivery efficiency.<sup>12, 13</sup>

The growth in e-commerce creates conflicts on local streets. Deliveries compete with bicycle lanes, on-street parking, transit stops and bus lanes, as well as with passenger pickup and drop off. These conflicts are not limited to business districts and commercial areas; they also occur in residential neighborhoods that rely on on-street residential parking. Outdated curb regulations and pricing policies and ineffective enforcement are ill-suited to an era in which commercial demands for curb space are growing so rapidly.<sup>14</sup>

E-commerce distribution nodes also strain the transportation system. These facilities are often 24-hour operations, typically generating more than 1,000 vehicle trips each day.<sup>15</sup> They are frequently located in places where access by public transit is limited.<sup>16</sup>



## Land Use Impacts

The pressure to maintain dependable and ever-quicker delivery times has resulted in e-commerce companies adding warehouse and distribution centers closer to consumers as part of their regional networks.<sup>17</sup> In 2020, Amazon opened more than 175 new fulfillment centers, sortation centers, delivery stations, and regional air hubs in the U.S. and Canada, a trend that shows no signs of slowing.

The competition to add warehouse and distribution centers has resulted in a high demand for industrial real estate, particularly in urban areas. In urban Boston, warehouse rents have increased 42 percent over the last two years.<sup>18</sup> Primarily sited in industrially zoned areas, these facilities require both substantial amounts of land and easy access to the regional highway network.<sup>19</sup>

The U.S. has more retail space than any other country. Even in the absence of e-commerce, the nation's retail space is considered to be "overbuilt," and that in-person retail activity is insufficient to support the existing retail footprint. Malls and commercial real estate have been contending with sizable and steady closures, vacancies, and declining profits over the past several years. Nationwide, physical-store closures reached an all-time high in 2017 and again in 2019.<sup>20</sup> Approximately 25 percent of all malls nationwide (approximately 1,000) are projected to close over the next five years.<sup>21</sup> At the same time, online shopping's share of total retail sales is projected to increase to 25 percent by 2026, if not sooner.<sup>22, 23</sup> These trends, a function of changing consumer behavior and a rise in e-commerce, predated the pandemic; but the social distancing and economic recession associated with the pandemic have accelerated physical retail decline.<sup>24</sup>




## Potential Policy Strategies and Next Steps

E-commerce is changing our economy, consumer practices, and society. It is imperative that state and municipal governments prepare for and manage these disruptions. Land use and transportation policy and planning can ensure that the growth of e-commerce helps the region and the state to achieve its goals related to transportation, equity, economic growth, and sustainability.<sup>25</sup> The **five potential policy strategies**, which can be implemented at the state and local levels, identified in this report include:


**Advance regional coordination among municipalities.** Create a regional strategy for the siting and operations of warehouse and distribution centers to manage impacts such as traffic congestion and emissions. The regional strategy includes developing a transportation and land use design playbook for municipalities, which would include recommendations about zoning, building codes, proposal review, mitigation, tax incentives, and monitoring. A playbook will promote consistency and ensure a level playing field across cities and towns.

**Increase transparency in the growing e-commerce industry.** Require e-commerce companies to report information and metrics such as the location of warehouse and distribution centers, employment, and transportation impacts of e-commerce logistics and delivery. Data sharing is a critical step to understand and sustainably manage the impacts of e-commerce.





**Establish incentives for efficient deliveries.** Both the public and private sectors should incentivize more efficient deliveries to reduce traffic and associated greenhouse gas impacts. This can be done by determining a method to assess the impact of e-commerce on congestion and emissions, and then setting a fee structure that incentivizes companies and customers to opt for more sustainable delivery options, such as combining orders into a single delivery and not choosing expedited deliveries.



**Implement curb management strategies.** After conducting comprehensive curb space inventories, municipalities should use that information to establish curbside management policies that reduce congestion, safety risks, and conflicts. These policies should designate delivery and loading zones, establish dynamic pricing mechanisms to foster efficient utilization of the zones, and authorize rigorous enforcement practices.



**Track innovations in e-commerce.** Track new technologies and innovations in the e-commerce industry such as package lockers, cargo bikes, air and ground drones, and autonomous vehicles to minimize negative impacts while ensuring public safety and convenience.



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## Frequently Used E-Commerce Industry Terms

*Frequently used e-commerce industry terms which are also applied throughout this report:*

- ▶ **Click and Collect:** Models offered by retailers such as Target, Walmart, and grocery stores. Orders are placed online and picked up by the purchaser curbside at the store or in the store.
- ▶ **Dark Store:** A store that stocks items for fulfillment but is not open to the public.
- ▶ **Delivery Service Provider or DSP:** Independent delivery organizations that help e-commerce providers such as Amazon deliver packages.
- ▶ **Distribution Center (or Fulfillment Center):** A building specifically designed to receive, store and redistribute goods and designed for rapid turnaround for e-commerce and similar “just in time” product deliveries.
- ▶ **Ghost Kitchen:** A single commercial facility that houses multiple restaurant operators who prepare food for takeout or delivery exclusively to fulfill online orders. Also referred to as cloud kitchens, dark kitchens, or virtual food halls.
- ▶ **Package Locker:** Self-service secure containers where customers can pick up packages at their convenience. Also referred to as parcel lockers.
- ▶ **Warehouse:** A large building where raw materials or finished goods are stored, for either a short or longer time. Warehouses can include buildings designed to fulfill e-commerce orders.



# Chapter 1: E-Commerce in the US

E-commerce is a \$600 billion industry in the United States,<sup>1</sup> having grown by more than 300 percent since 2010. This shift in how Americans shop is impacting traffic, with millions of daily deliveries to businesses and households. It is changing the built environment by shifting retail activity from traditional retail locations to an increasing number of e-commerce warehouse and distribution centers in both suburban and urban areas. The pandemic has accelerated these changes, with a greater growth of online commerce and more home deliveries of all types of retail, including groceries.

MAPC, the regional planning agency for Greater Boston, has undertaken this study to better understand how the rapid growth in e-commerce impacts the region's communities, and how municipalities and the Commonwealth can meet the streetscape and land use challenges that online retail is creating. MAPC intends to serve as a resource for continued information sharing and findings from e-commerce surveys and pilot programs and conduct research on how municipalities in Massachusetts are currently mitigating and managing the impacts of warehouse and distribution centers.

This study highlights key trends both nationally and in Massachusetts, and concludes with suggestions for further research.





## Introduction

**E-commerce**<sup>2</sup> is the buying and selling of goods or services via the internet, typically with the online transfer of money and data to complete the sale. It can be business to consumer, direct to consumer, business to business, and consumer to consumer (e.g., on platforms such as eBay).<sup>3</sup> Although it's been around since the invention of the modem, e-commerce has grown rapidly over the last ten years, thanks to advances in technology. Leaps in mobile technology, wireless networks, order tracking, online financial transactions, and logistics have all contributed to e-commerce's rise.

The growth in e-commerce is affecting both transportation networks and land uses (zoning, building design, etc.) at both the regional and local levels:

- ▶ **Increasing traffic** with a greater number of vehicles delivering goods to warehouses and distribution centers and vehicles delivering individual orders to consumers. The increase in truck, van, and cars on the road has an impact on both traffic congestion and air quality.
- ▶ **Greater competition for curb space** on local streets. The increased competition can cause conflicts with on-street parking, bicycle lanes, transit lanes/bus stops, and recently expanded pedestrian and outdoor dining space.
- ▶ **Greater demand for warehouse and distribution sites** that require a large footprint, generate truck, van, and car traffic, but also bring jobs, and are increasingly locating in urban locations to meet demand.
- ▶ **Impacts to brick-and-mortar retail**, including retail closures, that may affect local land uses and employment. The extent to which brick-and-mortar retail may be repurposed to warehouse and distribution centers or other land uses remains uncertain.
- ▶ **Impacts on restaurants** with greater take-out and delivery and reduced or eliminated in-person dining.
- ▶ **Equity concerns**, including whether low-income residents and communities of color are disproportionately subject to the traffic, noise, and air pollution from distribution center operations, as well as whether the shift from traditional retail jobs to warehousing and deliveries has greater impacts on certain subsets of the population.

Architects and urban designers are reacting to the changing commerce landscape by designing building lobbies and entries and off-street loading areas for parcel delivery and storage, and by designating places for rooftops and building entrances to accommodate robots and drone deliveries.<sup>4</sup>

Of course, not every impact is negative: the e-commerce business model and economies of scale have resulted in lower prices for many consumer goods; and e-commerce enables home-bound residents and those without a car to purchase a breadth of goods, services, and foods they might not otherwise be able to access. Unfortunately, the lack of good data about online retail makes assessing the benefits and impacts difficult, which in turn complicates managing the growth of e-commerce to ensure greater equity and sustainability in the region.

E-commerce is projected to grow rapidly over the next few years, and recent surveys of households during the COVID-19 pandemic show that many plan to shop online at higher rates in the future. Therefore, it is imperative that municipalities and state governments better understand and determine ways to manage impacts related to e-commerce.



## National Trends and Impacts

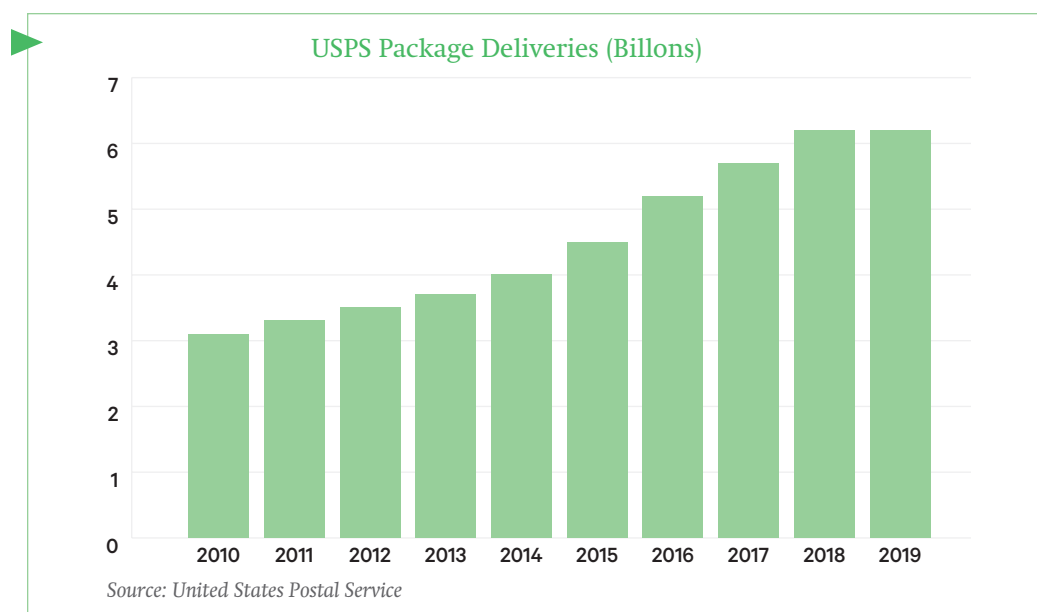
The Census Bureau estimates that as of the third quarter in 2020, e-commerce represented 14.3 percent of total retail sales (Figure 1). While most retail sales are still made in traditional in-person settings, e-commerce has more than doubled in the last five years. Primarily due to the COVID-19 pandemic, which forced many in the United States to stay at home, e-commerce sales increased 30 percent from December 2019 to July 2020, to levels originally forecasted to be reached by late 2022.<sup>6</sup> Prior to the pandemic, UBS, a global financial services company, projected the share of online retail to rise to 25 percent by 2026 nationwide.<sup>7</sup>

**Figure 1. E-commerce as a Percent of Total Retail Sales Nationwide**



The National Capital Region Transportation Planning Board estimates that on average, every person nationwide generates demand for roughly 60 tons of freight each year.<sup>8</sup> In the past ten years, the increase in e-commerce caused U.S. Postal Services (USPS) package deliveries to double (Figure 2). In 2019, Amazon delivered about 2.5 billion packages in the United States, an estimated 20 packages for every household. Due to the pandemic, analysts forecast this number will increase by at least 20 percent.<sup>9</sup>

**Figure 2. U.S. Post Office Package Deliveries, 2010-2019**





While the impacts of e-commerce are global, urbanized areas are experiencing the greatest effects. New York City alone receives an estimated 1.5 million deliveries per day, more than one for every six residents. While London's congestion pricing program has reduced single occupancy car use from 50 percent to 37 percent since 2003, the number of delivery vehicles has increased by 25 percent over the last ten years.<sup>10</sup>

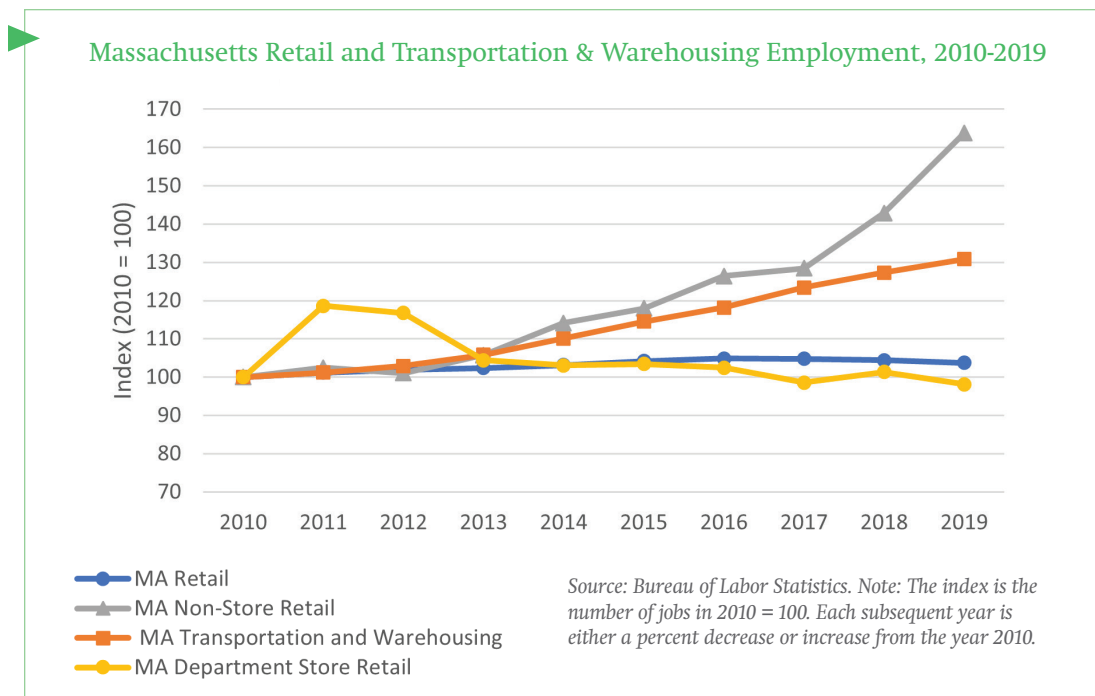
A 2017 survey of households in New York City and Paris revealed that couples with children were more likely to purchase non-food items and groceries online to avoid trips and save time. More than one-third of New York City households surveyed were willing to pay extra for same-day deliveries, nine out of ten had ordered restaurant food online, and 33 percent stated that they began to eat out less frequently once they started using online food ordering apps. The study also found a positive correlation between income and the amount of online shopping.<sup>11</sup> A study of millennials – who now make up the largest percent of the workforce nationwide – found that this age group received two to three packages per week, and similarly found a positive correlation between income and the number of packages received each week from online purchases.<sup>12</sup>

## Massachusetts E-Commerce Trends

While there are data showing the trends of e-commerce and online retail in the United States, there are almost no e-commerce data collected on the local or state level. The U.S. Census Bureau does not report retail sales by state, and the USPS and other package carriers do not report their data on deliveries at a localized level. Furthermore, while there are limited studies on parking and vehicular traffic impacts in select downtowns such as Manhattan, there have been no comprehensive studies on vehicular traffic generated by e-commerce. Select state and national employment data, however, help show e-commerce trends in the Commonwealth.

Employment sectors measured by the Bureau of Labor Statistics<sup>13</sup> that reflect changes from e-commerce include retail, department store retail, non-store retail (which includes online retailers), and transportation and warehousing. According to data from the Bureau of Labor Statistics, Massachusetts retail and department store employment levels have remained relatively steady since 2010 at 330,000 to 350,000 employees (overall retail) and 33,000 to 35,000 employees (department store retail). Non-store retail employment and transportation and warehousing, however, have seen steady increases in the last ten years. Between 2010 and 2019, the state's non-store retail workforce and transportation/warehousing workforce increased by approximately 64 percent (over 19,000 employees) and 31 percent (90,000 employees) respectively (Figure 3).

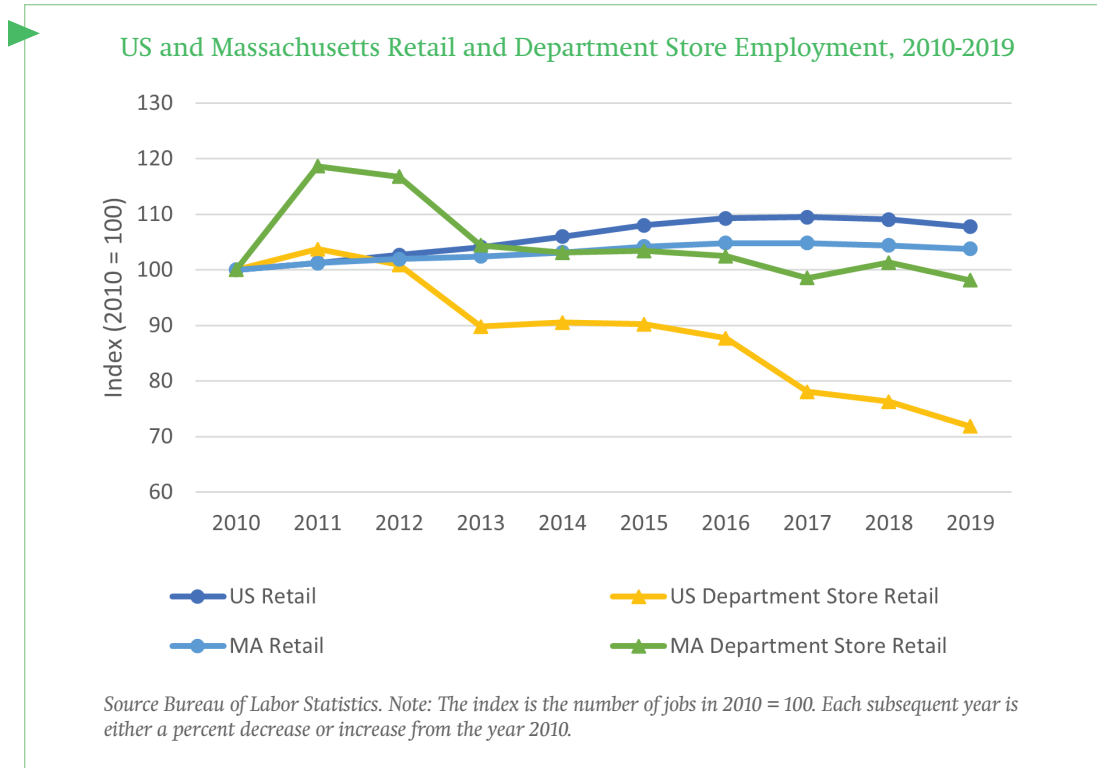
**Figure 3. Massachusetts Retail and Transportation & Warehousing Employment, 2010-2019**





By comparison, U.S. employment in both transportation/warehousing and non-store retail employment grew by 39 percent since 2010. Interestingly, both U.S. and Massachusetts retail employment grew slightly from 2010 to 2019, while department store employment in Massachusetts decreased slightly and national employment for department stores saw steady losses (Figure 4).

**Figure 4. Massachusetts and U.S. Department Store Employment, 2010-2019**



There are equity concerns with this changing retail and e-commerce landscape. The shift from brick-and-mortar to online retail has impacts on gender equity in employment. Currently, brick-and-mortar retail employment in the U.S. is 70 percent staffed by women, while warehousing and package delivery jobs are three-fourths staffed by men.<sup>14</sup> Furthermore, there are concerns about whether the growing number of e-commerce jobs, particularly delivery positions, are filled by independent contractors with limited or no benefits, such as retirement, paid leave, and health insurance. Finally, there may be geographic equity impacts, as the siting of e-commerce warehouse and distribution centers may or may not be accessible by public transportation.<sup>15</sup>



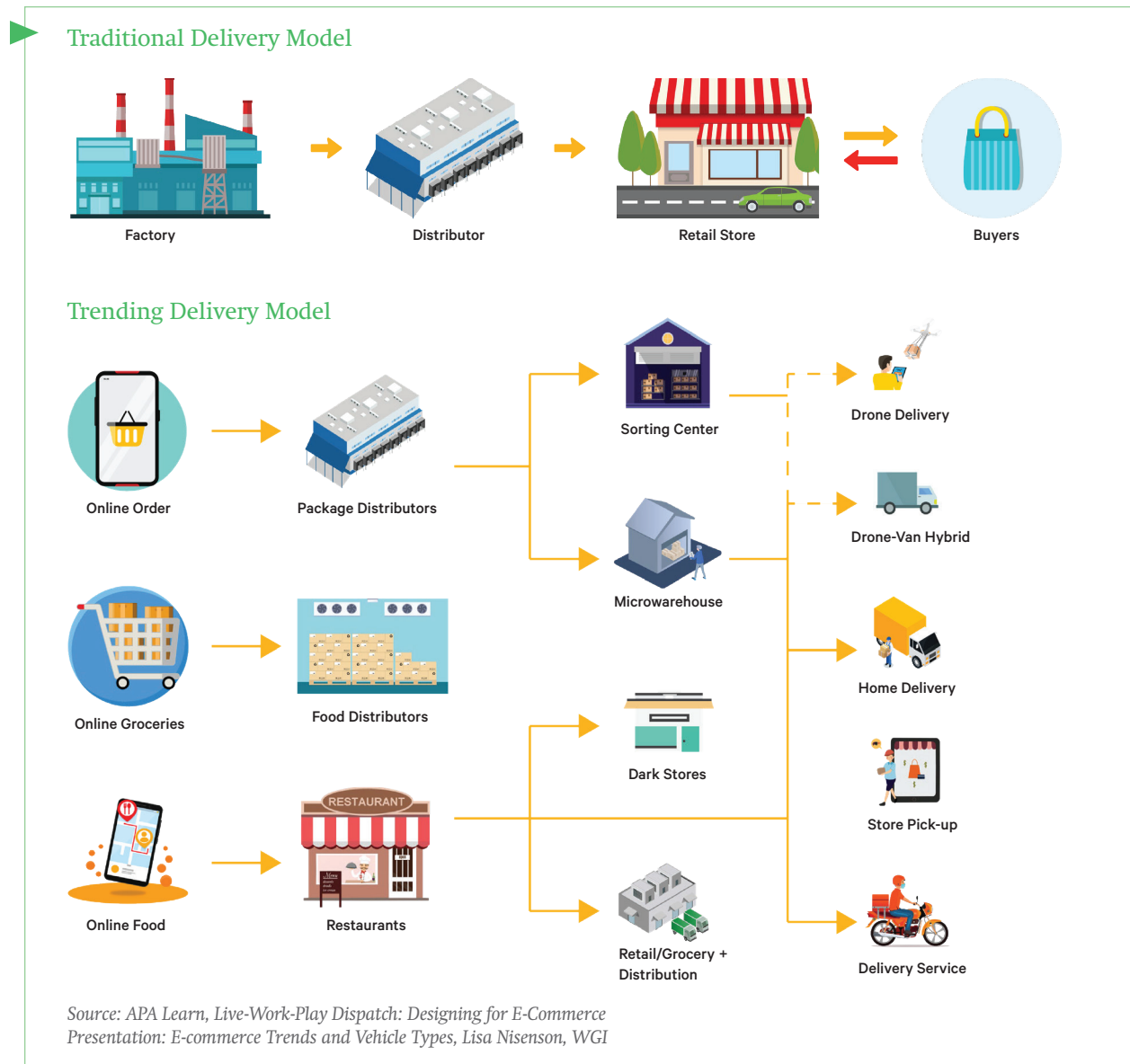
## ► Chapter 2: Transportation and E-Commerce





The transportation impacts of e-commerce are primarily due to what is called “supply chain logistics.” The supply chain consists of the material and informational interchanges in the logistical process stretching from acquisition of raw materials to delivery of finished products to the end user. Distributors, stores, and buyers are some of the links in the supply chain. For e-commerce, supply chain logistics primarily refers to the processes involved in storing and shipping inventory for an online store or marketplace, including inventory management and the picking, packing, and shipping of online orders (Figure 5).<sup>1</sup>

Figure 5. Supply Chain Logistics



Centered on a model of same-day delivery and a local approach to distribution, e-commerce has reshaped how supply chains work. In the past, goods moved first from the factory to the distributor, and then to the store where consumers made purchases. Due to e-commerce, the supply chain has evolved into an expanded model that moves goods across a complex network of interconnected facilities. This complex network includes brick-and-mortar stores, multiple warehouse and distribution centers, customer click-and-collect points, and package lockers.<sup>2</sup>

As a result, e-commerce impacts transportation networks regionally with increased vehicle traffic on roadways and streets, and locally with multiple daily deliveries at workplaces and residences where delivery vehicles compete for use of the curb.



New approaches are being designed to manage and facilitate the reverse logistics of returning items ordered online. For example, in a partnership with Amazon, Kohl's accepts returns of Amazon orders. Kohl's will package and send returned items to Amazon on behalf of customers at no cost. Walmart offers a Mobile Express Returns service which allows Walmart products purchased online to be returned in Walmart's physical stores at no additional cost. By these stores leveraging their physical locations, returns are more convenient for the customer and the retailer benefits from a centralized pick-up point.<sup>9</sup> However, a shopper making a trip to the retail center to return an online purchase results in additional Vehicle Miles Travelled (VMT) and associated traffic congestion and Greenhouse Gas (GHG) emissions. This again illustrates the difficulty in calculating whether e-commerce has a net positive or negative impact on regional traffic.

A comprehensive study of the online shopping habits of Manhattan residents found that more than a third were willing to pay extra for same-day delivery. Meeting this immediate demand entails the use of more delivery vehicles. The study also found a positive correlation between income and the amount of online shopping. Similar research on shoppers in Texas found that wealthier households (those making more than \$75,000 annually) had an average of three package deliveries per week, compared to two packages per week for households with an annual income of less than \$25,000. This research also found that the more in-store shopping trips a household conducts per week, the more online packages the household receives each week; it found, too, that higher-income households were more likely to pay for expedited or same-day deliveries. These findings all suggest that e-commerce at this time may not be directly replacing in-person shopping trips, but rather providing another way for those with more disposable income to shop more.<sup>11</sup>

An additional number of households are also embracing the "click and collect" models offered by retailers such as Target, Walmart, and grocery stores. Orders are placed online and picked up by the purchaser curbside at the store or in the store. This does not reduce VMT.<sup>12</sup> It is worth noting that the customer in-store or curbside pickup model is more cost effective for retailers, as they do not handle the last-mile delivery process.<sup>13</sup>

Some researchers have begun to estimate the impacts of e-commerce on both VMT and vehicle emissions, both now and in the future. As of 2018, approximately five percent of e-commerce was same-day delivery. Same-day delivery is forecast to increase to 15 percent within five years. Analysis by UC Davis found that offers for same-day deliveries are estimated to be among the most important determinants in increasing the number of vehicle miles traveled per package delivery. Their research estimates that an expedited one-hour delivery requires an average of 1.3 miles per package delivery, compared to less than 0.2 miles for next-day delivery.<sup>15</sup> A study by the World Economic Forum projected the growth in deliveries using traffic and other data from several cities across the globe. The study concluded that without policy intervention, the number of delivery vehicles will increase 36 percent from 2019 to 2030, along with a 32 percent increase in carbon-dioxide emissions. The study also found that impacts of growth in last-mile deliveries alone could increase average commutes by 21 minutes by 2030. The report recommended various interventions to reduce traffic congestion and associated carbon-dioxide emissions, including mandated electric vehicle fleet adoption, use of drones for deliveries, increased double-parking enforcement, installation of package lockers, and creating more delivery parking zones. Implementing these interventions will require substantive policy changes, monetary investments, along with changes in customer shopping habits.<sup>16</sup>

Both the public and private sectors have begun to incentivize more efficient deliveries to reduce traffic and associated GHG impacts. A surcharge on same day deliveries could monetize the traffic impacts created by same-day deliveries and encourage users to select less-expedited delivery options. Amazon at times incentivizes customers (through discounts or reduced fees) to combine purchases into a single delivery. If this option was applied on a more widespread basis, and not just by Amazon, the number of deliveries and packing materials could be reduced. Since the pandemic in early 2020, UPS has added "peak" surcharges for large, high-volume companies such as Amazon, Target, and Best Buy in an effort to manage increasing numbers of shipments. Typically, these extra fees are imposed during the holiday shopping season. The surcharge could impact the volume and sizes of packages these companies ship with UPS.<sup>17</sup>



## Traffic and Air Quality Impacts

The increased use of e-commerce raises two traffic-related questions: how much added traffic is due to e-commerce deliveries (trucks, vans, and cars), and do e-commerce deliveries replace vehicle trips that used to be made to traditional retail stores.

Since 2010, total Vehicle Miles Travelled (VMT) nationwide has grown nine percent overall but increased 13 percent in urban areas, while VMT in Massachusetts has grown 19 percent statewide and 23 percent in urban areas between 2010 and 2019.<sup>3</sup> While some of this growth can be attributed to recovery from the Great Recession, there is also evidence that e-commerce and the widespread adoption of ride-hailing services are contributing to the growth in VMT and associated traffic congestion and vehicle emissions. In 2018, New York City received 1.5 million deliveries each day, a number that has tripled over the last eight years. As of 2018, at least 15 percent of New York City households received at least one package daily. The number of trucks on tolled bridges into New York City rose nine percent from 2014 to 2018.<sup>4</sup> However, this growth in truck traffic only tells part of the story, as many deliveries are now made by vans and cars. Local data on the number of deliveries and their traffic impacts remains difficult to collect.

There has been almost no research on the extent to which e-commerce deliveries may be replacing vehicle trips for shopping. In theory, a consolidated delivery system of e-commerce orders compared to each individual household driving for their shopping trips should have lowered overall VMT.<sup>5</sup>

### ► The reality is more complex, indicating that online shopping may not necessarily be directly replacing in-person shopping trips:

- An online order for several items from a single site, such as Amazon or Target, can be shipped from separate warehouse or distribution centers. This can result in multiple deliveries from a single online order.
- Households are now offered more options for same-day or next-day shipping, which requires faster deliveries. This can require more vehicles and less opportunity to optimize distribution and routing.<sup>6</sup>
- Thirty percent of online orders are returned.<sup>7</sup> This has created the need for what the industry calls “reverse logistics” – the moving of returned orders from the buyer, preferably to a destination that allows for some value recapture. Additionally, due to theft or deliveries to the wrong location, the rate of failed first delivery attempts can be as high as 15 percent in some cities.<sup>8</sup> Reverse logistics and multiple delivery attempts increases the number of vehicular trips.
- Surveys of shoppers indicate that online deliveries are not wholly replacing in-person shopping trips. Rather, shoppers continue to shop in person on a regular basis *and also* go online primarily to purchase select items they have not bought during their in-person shopping trips.

In some cases, e-commerce may entail both an in-person store visit and a delivery. Some consumers visit a brick-and-mortar store to look at products before comparing prices and purchasing online for delivery. This involves both a car and a delivery trip. Another question is what consumers do with the time saved by making purchases online, and whether they are using any new “free time” for other trips.



A bill was proposed in December 2020 in New York City that would require residents to pay a \$3.00 surcharge on packages they order online, with the exception of medicine and food. The online shopping fee would be used to fund the operating costs of New York's public transit system and is intended to support small businesses and protect the environment.<sup>18</sup> Chicago also proposed in late 2020 a \$1.25 to \$2.50 surcharge on deliveries, with the exception of medicine and restaurants. The purpose of the tax is to help raise revenues for the city.<sup>19</sup> To date, these proposals have not been adopted, in part due to equity concerns about the tax's impacts on lower-income households. While these surcharges could help monetize the traffic impacts created by e-commerce, research suggests they must be done in conjunction with other interventions, such as package lockers and improved delivery parking regulations/enforcement to have the greatest impacts on reducing traffic and air quality impacts.



Photo: FedEx trucks in downtown Boston; Shutterstock

## Deliveries and Curb Impacts

The growth in e-commerce also creates conflicts on local streets where delivery vehicles must compete with other uses of the curb, such as bicycle lanes, on-street parking, transit stops and bus lanes, as well as passenger pickups and drop offs for taxis and transportation network companies (TNCs). Parklets and extended outdoor dining areas, which have become more widespread during the COVID-19 pandemic, are also occupying curb space previously dedicated to other uses. Delivery vehicles double parked (particularly in bike and bus lanes) have become a frequent hazard in urban areas. These curb space conflicts are not limited to central business districts, but also are in suburban neighborhoods with a greater prevalence of on-street residential parking.



The first step in tackling the problem with the curb is to understand the delivery-zone supply and demand in downtowns and other dense areas. Since the pandemic, data is suggesting that, nationwide, commercial vehicles comprise nearly 30 percent of parking activity in cities and that more than 50 percent of parking violations in cities are committed by commercial operators.<sup>20</sup> Los Angeles, Seattle, San Francisco, New York, and Washington, D.C. have studied the number of deliveries in key locations and developed pilot programs to better manage both the supply of curbside delivery spaces and enforcement.<sup>21, 22</sup>

Seattle, Toronto, and San Francisco have developed comprehensive framework and policy guides to inform future decision-making about using curb space for a variety of uses. Seattle's [Flex Zone/Curb Use Priorities](#) defines the curb lane as a "flex zone," and allocates ranked curb use priorities (mobility, access for people, access for commerce, activation, greening, and storage) according to street types. Toronto's Curbside Management Strategy and San Francisco's Curb Management Strategy have comprehensive policy approaches and implementation plans that manage curbside space while supporting mobility and access for people and goods. For example, the GoDCgo program in Washington, D.C. allows commercial vehicles to park in loading zones during designated times via a mobile service or smartphone application. DC has found that companies are willing to pay for the reliability, time savings, and reduction in parking violations that result from this program.<sup>23</sup>

In 2018, the City of Boston began an effort to identify curb lane parking areas that were over- and under-utilized. The city studied its parking violations to determine where delivery vehicles were double-parking in travel lanes, bus lanes, and bicycle lanes and where vehicles were overstaying in loading zones. Boston found substantial variation in curb space utilization within only a few hundred feet throughout the day (7 a.m. – 7 p.m.). As seen in Figure 6, commercial parking/delivery spaces in purple had passenger vehicle violations, indicating they are likely underutilized by commercial vehicles. Red spaces show double-parking violations of commercial vehicles (suggesting too few spaces dedicated for deliveries and commercial vehicles), and black show commercial vehicles that were parked beyond the 30-minute limit for deliveries (indicating spaces are overutilized). In the Back Bay, streets that are primarily residential and closer to the Charles River show higher concentrations of commercial vehicles double parking, suggesting there is not enough parking designated for delivery vehicles. The same applies for Commercial Street in the North End. In comparison, the Financial District has several zones for deliveries that are used by personal vehicles, which may indicate an oversupply of delivery parking spaces.<sup>24</sup>

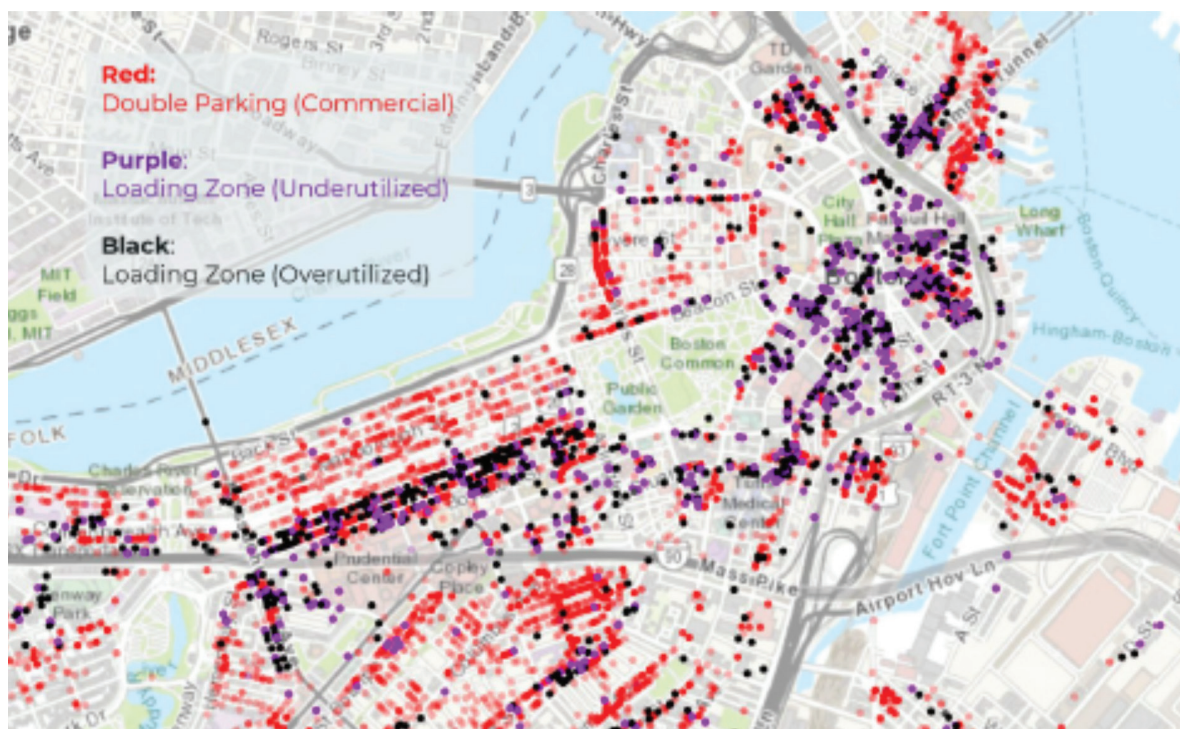


Photo (right): UPS truck in Brookline Village in bike/parking lane; MAPC



On the basis of this study, Boston is developing pilot programs to manage deliveries through more dynamic curbside-parking pricing. The City also plans to advance a pilot program for e-cargo bike deliveries.

Figure 6. City of Boston Commercial Parking Violations



Source: City of Boston

The Boston Metropolitan Area Planning Organization (MPO) is undertaking research on the future of the curb. It recommends communities in the Boston area consider pilot programs to better manage curbside use for parking and deliveries.<sup>25</sup> Potential strategies include making street parking along entire city blocks for deliveries only, which has reduced double parking and dwell times for delivery vehicles in Washington, DC.



## Package Lockers

Package lockers (sometimes called parcel lockers) are self-service secure containers where customers can pick up packages at their convenience. After carriers make deliveries, customers can then retrieve their packages, usually with a personalized access code sent by text or e-mail. Package lockers are typically sited at centralized locations such as apartment buildings, office buildings, grocery stores, and convenience stores. There are various locker services such as the USPS, Gopost, UPS Access Point, DHL Lockers, FedEx Ship & Get, and Amazon Hub.

Delivering to a package locker removes the need for multiple delivery attempts and reduces vehicle dwell times. Enabling drivers to make one delivery trip quickly and efficiently to a centralized location can reduce congestion and emissions. A study by Urban Freight Lab found that package lockers at an apartment complex in Seattle reduced the time UPS trucks were parked in front of the complex by 78 percent.<sup>26</sup>



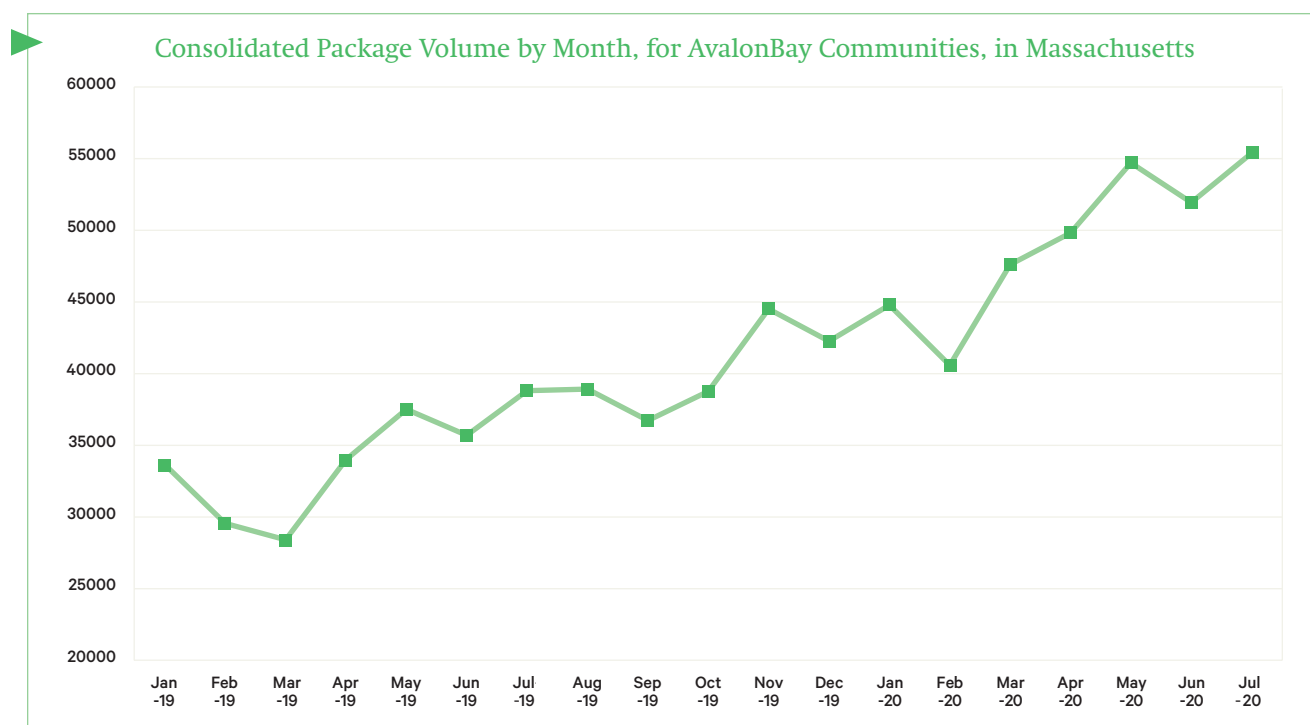
Photo: UPS locker at Stop & Shop in Dedham; MAPC

Not surprisingly, an analysis of package deliveries to residential buildings mirrors the tremendous increase in the e-commerce sector. For example, AvalonBay Communities, a real estate investment trust that has an ownership interest in about 80,000 apartments nationwide, reported in 2017 that the average apartment community in the company's portfolio received approximately 1,000 packages a month, up from 650 in the prior year. Over the past several years, the company reported having a 30 percent annual increase in the volume of packages it receives.<sup>27</sup>

In Massachusetts, AvalonBay has an ownership interest in about 10,530 apartment units in 40 buildings.<sup>28</sup> These apartment buildings are in 25 municipalities throughout Eastern Massachusetts.<sup>29</sup> Recently, AvalonBay contracted with Amazon to install package lockers at their apartment buildings, which allows data on package deliveries to be collected. Even though the parcel locker system was installed by Amazon, all carriers (e.g., UPS, FedEx, and small regional carriers) can be assigned a carrier code that allows them to deliver to the lockers. The figure below depicts the consolidated data on deliveries across the 10,530 apartment units in the 40 buildings in Massachusetts. Over a 19-month period from January 2019 to July 2020, package deliveries increased by 65 percent. As of July 2020, the average number of monthly package deliveries per apartment unit is 5.3.



Figure 7. Consolidated Deliveries, AvalonBay Communities in Massachusetts



## Notes:

- Deliveries include both manually delivered packages and packages delivered to package lockers.
- AvalonBay notes this number is understated as packages are sometimes delivered to the apartment door or left by carriers around the community.
- Package returns are not managed.
- While AvalonBay does not share occupancy data, they utilize an industry benchmark of 95 percent.



Photo (left): Amazon Prime delivery in Revere; Shutterstock



Photo (right): UPS Driver; MAPC



## Traffic from Warehouses and Distribution Centers

Warehouses and distribution centers generate three distinct types of trips and associated traffic patterns: 'inbound' traffic from wholesalers, retailers, or other distribution centers (primarily via tractor-trailers); 'inbound' employee traffic via personal vehicles; and 'outbound' delivery traffic via trucks, vans, or smaller vehicles. Each trip, of course, entails a corresponding leg where the vehicle leaves or returns to the facility.

While the traffic generated by e-commerce warehouse and distribution centers vary by size and type of product being delivered, most centers have 24-hour operations.<sup>30</sup> The typical cycle of activity consists of the receipt of bulk deliveries from distribution centers late at night from tractor-trailers. The items are sorted and prepped, then loaded into vans overnight for delivery. Delivery vans depart from distribution centers in waves starting in the late morning, make deliveries during the day, and then return in the evening. Employees driving to and from the site are also part of the traffic generated.<sup>31</sup> A more detailed description of the operations of a distribution center can be found in Chapter 3.

The total volume of traffic to and from warehouse and distribution centers in Massachusetts is currently unknown, as is the extent to which vehicular trips generated by an e-commerce distribution center are replacing other trips that might have been made by shoppers to traditional stores.

Understanding the traffic volume generated by these facilities is further complicated by the number of e-commerce distribution centers repurposed from older warehouses or large buildings. The Amazon distribution center in Dedham, for example, was previously a warehouse used by a Macy's department store and Restoration Hardware. The Amazon facility in Revere occupies an old Necco candy factory. In each location, some of the Amazon activity replaces traffic from previous activities at these sites.



Photo (left): Amazon van entering Milford delivery station on Industrial Road; Neal McNamara, Northborough Patch

Photo (right): Amazon Prime vans departing Milford delivery station on Industrial Road; Central Transportation Planning Staff



## Emerging Delivery Models

Emerging delivery models for e-commerce include new technologies such as air and ground drones, autonomous vehicles, as well as using existing technology such as e-bikes in new applications. Several municipalities and the private sector have developed pilots of emerging delivery models to determine their effectiveness. Package lockers (described earlier) started as pilots and are now becoming more widespread in deployment and use. The pilots described below are still early in their development.

### ► Cargo Bike Deliveries

Whether pedal-operated or electric, cargo bikes can serve as a nimble, carbon-neutral last-mile delivery solution which could reduce delivery times, traffic, emissions, as well as competition for curb space. In Miami, DHL is piloting e-assist cargo bikes, New York City launched an initiative to encourage freight companies to use cargo bikes, and in Seattle, UPS recently conducted a one month e-cargo bike pilot.<sup>32,33,34</sup>

London implemented a successful pilot in which delivery vans drove to strategically placed meet-up points where the goods were distributed to a team of bicyclists and pedestrians. In turn, the bicyclists and pedestrians delivered the packages while the delivery vans went back to the warehouse, reloaded, and drove to another meet-up point. It was determined that this delivery method allowed for four times as many packages to be delivered during one shift. Following this pilot, the City is considering next steps.<sup>35</sup>

In the summer of 2020, Boston released a Request for Information (RFI) for Electric Cargo Bikes as a Delivery Solution.<sup>36</sup> With a better understanding of existing initiatives in the Boston metro area and elsewhere, the City plans to launch an e-cargo bike delivery pilot program which will identify the potential regulatory, administrative, and operational challenges to e-cargo bike delivery and establish strategies to address those challenges.



Photo: UPS e-assist bike in Seattle, Washington; UPS



## ► Drones – Air and Ground

Numerous companies are exploring the expansion of aerial and ground drones for deliveries of medical, package, and food deliveries. Walmart and FedEx plan to collaborate on a pilot to send on-demand deliveries of household, and grocery items in North Carolina. Amazon, UPS, and Walgreens all have plans to conduct air drone pilot programs.<sup>37, 38</sup> CVS and Nuro, a robotics company, have partnered to deliver prescriptions in Houston with ground drones. CVS also has a partnership with UPS to deliver medical supplies via ground drones to retirement communities in Florida.<sup>39</sup> Starship Technologies, a delivery robotics company, has new grocery and meal delivery programs at university campuses, including Arizona State University, James Madison University in Virginia, and Georgia Southern University; and in communities such as Mountain View and Modesto in California.<sup>40</sup>

## ► Autonomous Vehicle Deliveries

Pilots are also underway using autonomous vehicles. In Phoenix, UPS will be undertaking a pilot in which autonomous vehicles will pick up packages dropped off at UPS stores and bring them to a UPS logistics facility.<sup>41</sup> In Bentonville, Arkansas, Walmart and autonomous vehicle startup Gatik have plans for delivering customer orders from a dark store. In Scottsdale, Walmart and GM Cruise have plans to test driverless deliveries using electric vehicles.<sup>42</sup> Toyota has developed an autonomous delivery service concept called e-Palette, which is a modular store on wheels that could deliver food and packages.<sup>43</sup>

Although widespread deployment of air and ground drones and autonomous vehicles will take several years to become mainstream, these types of services could dramatically impact personal trips, especially since 45 percent of household trips are for groceries and errands.<sup>44</sup>



## ► Chapter 3: Land Use and E-Commerce





The dramatic increase of e-commerce is having major effects on land use. The pressure to maintain dependable and quicker delivery times has resulted in e-commerce companies adding smaller warehouse and distribution centers closer to consumers as part of their regional networks, a trend which shows no signs of changing.<sup>1</sup>

Consumers are increasingly expecting to receive the goods they purchase promptly and retailers such as Amazon, Walmart, and Target are competing to reduce order-fulfillment times by offering next day and even same-day deliveries. Aimed to compete with Amazon Prime, which has an estimated membership of 112 million,<sup>2</sup> Walmart launched its own membership service for free deliveries, Walmart Plus, in September 2020. As transportation is the greatest cost as part of e-commerce logistics, the siting of smaller warehouse and distribution centers closer to consumers saves on both delivery times and expenses. Subsequently, the placement of warehouse and distribution centers in urban areas is an integral component of the “last mile” delivery process.

The competition to add warehouse and distribution centers has resulted in a high demand for industrial real estate, particularly in urban areas. According to real estate firm Cushman & Wakefield, the demand for industrial space in North America exceeded supply in 2019 for the first time since before the Great Recession.<sup>3</sup> Industry publications report that warehouse rents in the Boston-area market have increased 42 percent over the last two years to an average of just over \$12.00 per square foot.<sup>4</sup> According to a report by the Industrial Asset Management Council and the Society of Industrial and Office Realtors, “The rise of e-commerce is a primary reason for the growing demand for new warehouse space, strategically located within closer proximity to consumers.”<sup>5</sup>

The push to site warehouse and distribution centers closer to consumers is a significant industry change that impacts both land use and transportation. The increased traffic, emissions, and noise caused by delivery vehicles accessing the warehouse and distribution centers has raised concerns about potential negative health impacts to area residents.<sup>6</sup> As the distribution centers are located within urbanized areas to meet demand, these centers may be situated in communities of color and lower-income neighborhoods and could create disproportionate impacts.

At the same time, there is significant demand to site large e-commerce warehouse and distribution centers outside of urban areas. Primarily located in industrially-zoned areas, these facilities require both substantial amounts of land and easy access to the regional highway and rail network. It is worth noting that these facilities are frequently located where access by public transit is limited.<sup>7</sup>

While the pandemic has had considerable and immediate negative impacts on businesses and real estate, industrial properties are thriving primarily due to increased e-commerce activity. In 2020, Amazon opened more than 175 new fulfillment centers, distribution centers, sortation centers, delivery stations, and regional air hubs in the U.S. and Canada, a trend which shows no signs of slowing.<sup>8</sup>

As of December 2020, Amazon had 762 active facilities across the country and another 240 in the pipeline that would bring its footprint to over 352 million square feet.<sup>9</sup>

As e-commerce warehouse and distribution facilities are designed to prioritize goods movement and/or short-term goods storage, they require more loading docks, more space for parking, and higher ceiling heights than do traditional warehouses.<sup>10</sup>



## Amazon Facilities in Massachusetts

Amazon is one of the largest industrial tenants in the greater Boston industrial market and has plans for continued expansion. As of February 2021, 20 Amazon facilities were in operation and 14 facilities were in the pipeline. While the oldest of these facilities became operational in late 2014, ten became operational in 2020 alone. As shown in Table 1 and Figure 8, existing square footage is approximately 4.79 million square feet and planned development is an estimated 7.3 million square feet. If all planned facilities become operational, the total square footage could exceed 12 million square feet.<sup>11</sup>

### Definition of Amazon Facilities

- **Amazon Pantry and Fresh Distribution Center.** Facilities which service dry grocery merchandise (Pantry) or perishables or frozen merchandise (Fresh).
- **Amazon Prime Now.** Facilities that stock a limited line of products that are in high demand and can be delivered within 1-2 hours of order placement.
- **Amazon Whole Foods Retail Distribution Center.** A facility which services Whole Foods grocery products.
- **Delivery Station.** Facilities where packages are sorted and then dispatched directly to the customer. These facilities represent the last leg of the delivery network.
- **Distribution Center (or Fulfillment Center).** A building specifically designed to receive, store and redistribute goods and designed for rapid turnaround for e-commerce and similar “just in time” product deliveries.
- **Sortation Center.** Facilities generally used to sort packages for a geographical region whereby the packages have originated from one or more fulfillment centers within the Amazon network. Packages are usually shipped to delivery stations.

Modified from [https://www.mwpyl.com/html/amazon\\_com.html](https://www.mwpyl.com/html/amazon_com.html)



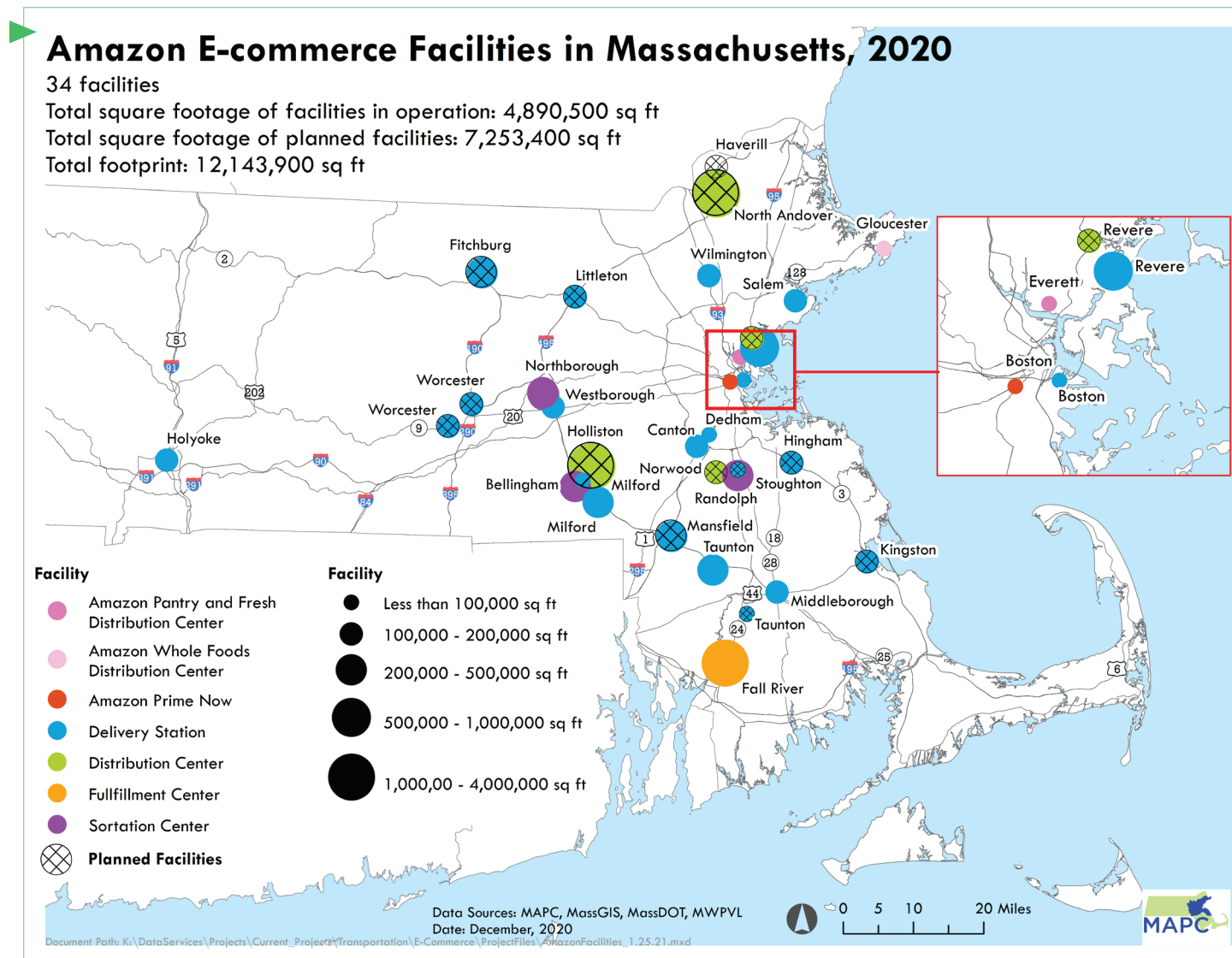
Table 1. Operational and Planned Amazon Facilities

Facility Type	Address	Municipality	Square Feet
<b>In Operation</b>			
Fullfillment Center	1180 Innovation Way	Fall River	1,015,700
Delivery Station	135 American Legion Highway	Revere	830,000
Delivery Station	800 John Quincy Adams Road	Taunton	350,300
Sortation Center	1000 Technology Center Drive	Stoughton	332,700
Sortation Center	1 National Street	Milford	332,000
Sortation Center	350 Bartlett Street	Northborough	300,000
Sortation Center	330 Bartlett Street	Northborough	300,000
Delivery Station	351 Maple Street	Bellingham	300,000
Delivery Station	732-750 Everett Street	Norwood	162,700
Delivery Station	4400 Computer Drive	Westborough	156,500
Delivery Station	20 Colonial Road	Salem	147,000
Delivery Station	161 Lower Westfield Road	Holyoke	145,000
Delivery Station	30 Commerce Boulevard	Middleborough	132,300
Delivery Station	110 Fordham Road	Wilmington	100,200
Delivery Station	8 Industrial Road	Milford	81,900
Amazon Prime Now	30 Northampton Street	Boston	72,300
Delivery Station	500 Sprague Street	Dedham	60,500
Amazon Pantry and Fresh Distribution Center	201 Beacham Street	Everett	51,000
Amazon Whole Foods Retail Distribution Center	15 Parker Street	Gloucester	20,400
Delivery Station	415 Summer Street	Boston	n/a
			<b>4,890,500</b>
<b>Planned</b>			
Distribution Center	1600 Osgood Street	North Andover	3,800,000
Distribution Center	555 Hopping Brook Road	Holliston and Medway	1,500,000
Delivery Station	139 Intervale Road	Fitchburg	350,000
Delivery Station	560 West Street	Mansfield	350,000
Delivery Station	125 Goddard Memorial Drive	Worcester	177,000
Delivery Station	100 Industrial Park Road	Hingham	149,000
Delivery Station	39 Presitge Way	Kingston	145,000
Delivery Station	151 Taylor Street	Littleton	143,000
Delivery Station	25 Computer Drive	Haverhill	142,000
Delivery Station	7 Neponset Street	Worcester	121,000
Distribution Center	300 Dan Road	Canton	106,698
Distribution Center	565 Squire Road	Revere	102,000
Delivery Station	100 Mazzeo Drive	Randolph	93,200
Delivery Station	350 Revolutionary Drive	Taunton	74,500
			<b>7,253,400</b>
		<b>Total</b>	<b>12,143,900</b>



As illustrated in Figure 8, current last-mile delivery stations are in Bellingham, Dedham, Everett, Holyoke, Milford, and Revere. Amazon is proposing to expand its network of last-mile delivery stations in Massachusetts with facilities in Boston, Hingham, Kingston, Mansfield, Middleborough, Salem, Taunton, Wilmington, and Worcester.<sup>12</sup> Both existing and planned facilities are heavily concentrated in the southeastern part of the state. This is attributed to the area having proximate access to the regional highway network and a building inventory that meets building specification demands of e-commerce providers (e.g., high ceiling heights and multiple loading docks).<sup>13</sup>

Figure 8. Amazon E-Commerce Facilities in Massachusetts, 2020



## Warehousing and Distribution Centers in Eastern Massachusetts

According to Colliers International, the rest of the Greater Boston industrial market (not including Amazon) has slightly under two million square feet in the construction and renovation pipeline.

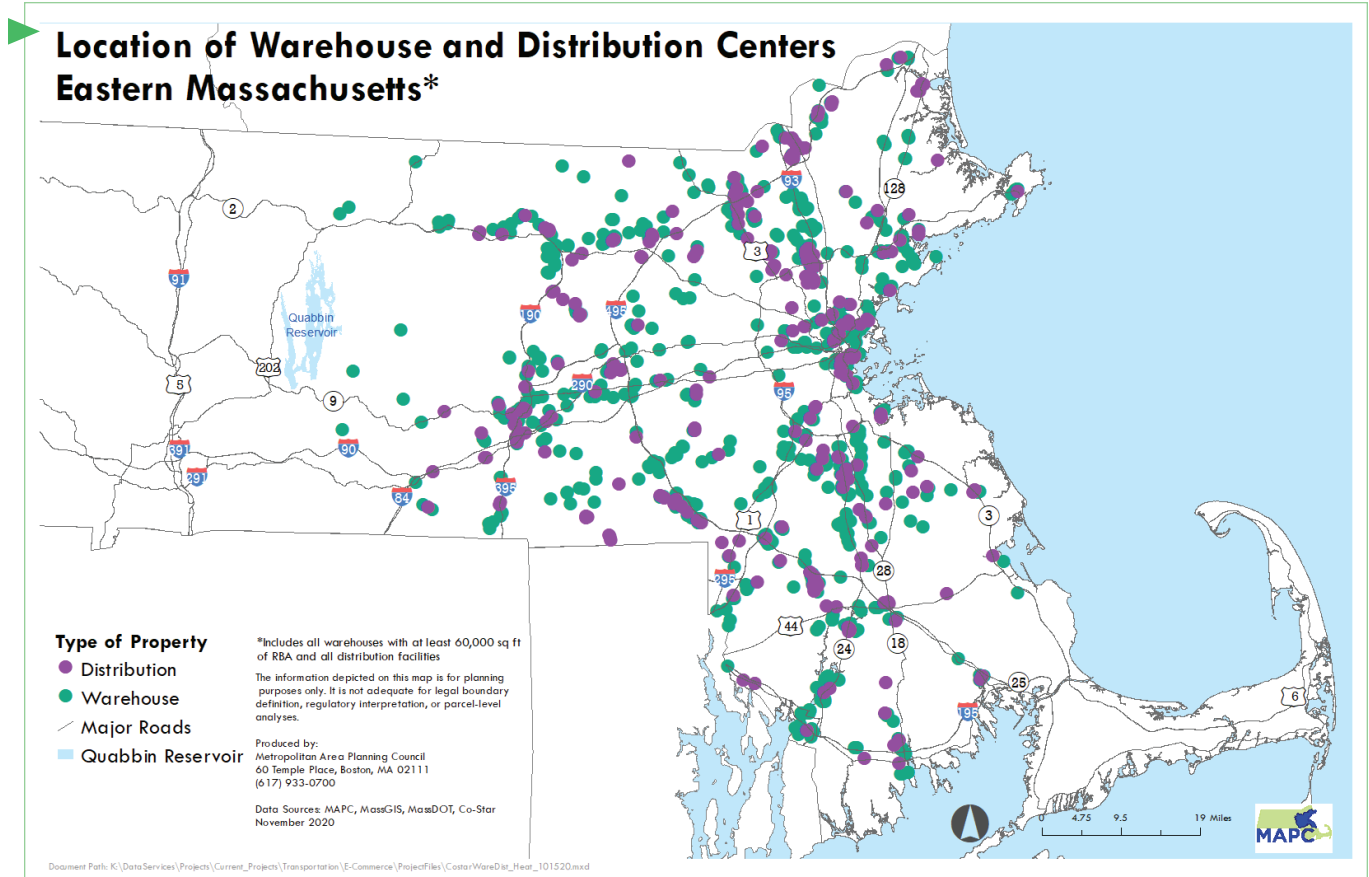
Colliers has identified the growing importance of two areas in the Commonwealth for the siting of warehousing and distribution: the Route 2 corridor, which provides access to Boston, Worcester, and New Hampshire; and the area south of I-495, which is proximate to the I-95/I-495 interchange.<sup>14</sup> Colliers has also determined that interest in industrial operations has also reached beyond the Boston market.



Consistent with national trends, Greater Boston's industrial market is in demand and growing.<sup>15</sup> Industrial vacancy rates reached a record low of 8.2 percent in Greater Boston at the end of 2020.<sup>16, 17</sup> According to Colliers, e-commerce is the "major demand driver" in the Greater Boston market.<sup>18</sup>

MAPC used CoStar, a commercial vendor that provides information, analytics, and marketing services to the commercial and property industry, to develop an inventory of warehouse and distribution centers. As shown in Figure 9, warehouse and distribution centers are distributed throughout Eastern Massachusetts.<sup>19</sup> The facility types coningle and are generally concentrated along the regional highway network. There are nodal concentrations of both facility types at the major highway interchange areas of I-90/I-190/I-290 (Worcester area), I-90/I-93/I-95 (Boston area), I-495/Route 3 (Lowell area), and I-95 and I-295/I-495 (southwest of Boston).

Figure 9. Location of Warehouse and Distribution Centers, Eastern Massachusetts

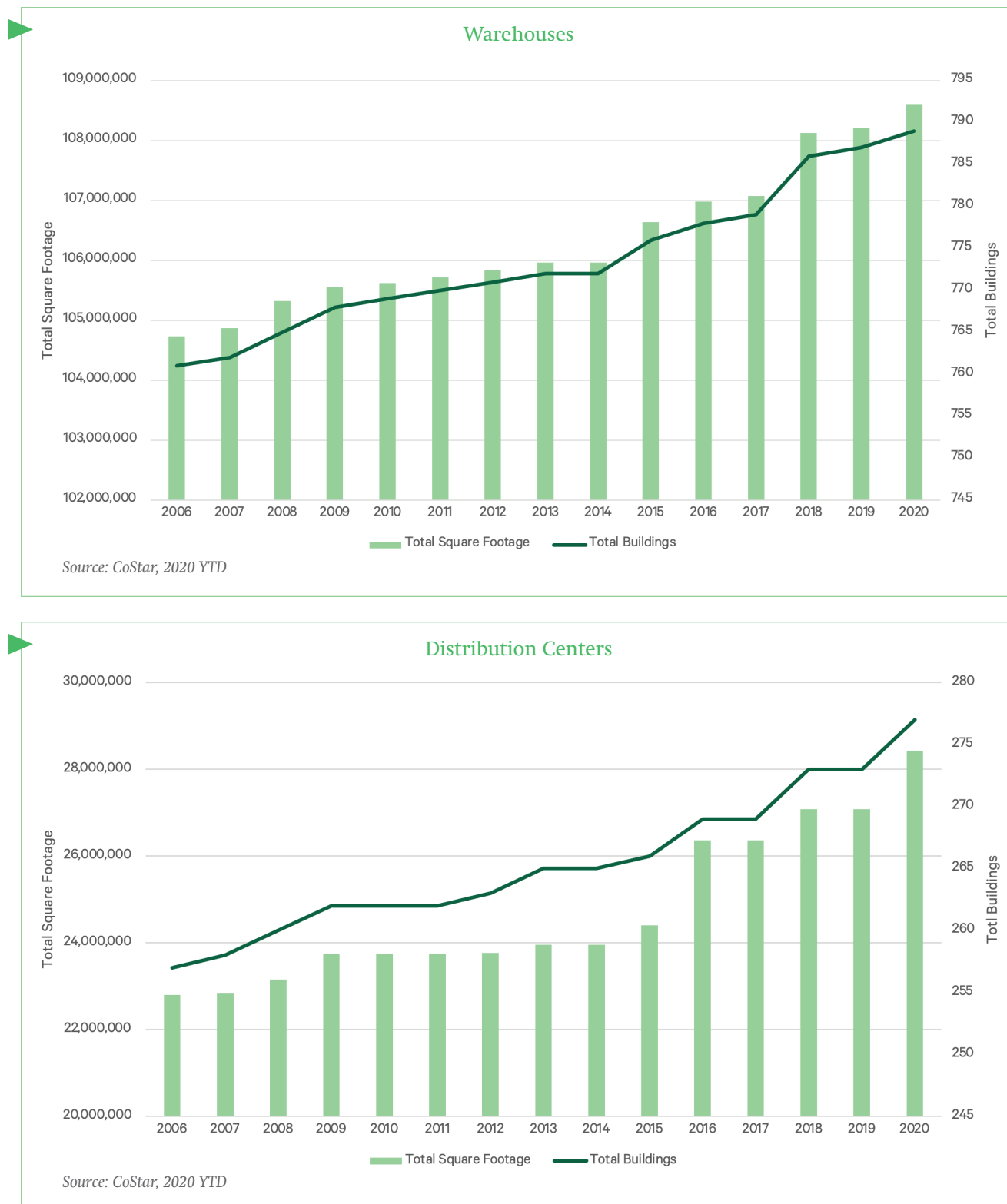


Note: MAPC's CoStar subscription coverage is for the eastern part of the state extending to the Quabbin Reservoir and does not include Cape Cod.



As shown in Figure 10, the number of warehouses and distribution centers has been steadily climbing since 2006. Currently, warehouse facilities comprise an estimated 790 buildings and total 108.6 million square feet. Distribution centers comprise an estimated 277 buildings, totaling 28.4 million square feet. It should be noted that not all of these facilities operate for e-commerce, but they illustrate the trends of warehousing and distribution centers in Massachusetts.

**Figure 10. Warehouses and Distribution Centers in Eastern Massachusetts, 2006-2020**





## CoStar Definitions

**Distribution:** Typically large buildings, both single and multi-tenant, used for the warehousing and distribution of inventory. Buildings are typically 200,000 square feet or more, with clear heights 28 feet plus, up to five percent office space and the balance being warehouse/storage space. These buildings typically have one loading door for every 10,000 square feet of Rentable Building Area (RBA) and site coverage up to 40 percent. These buildings are often cross-docked with trailer parking. MAPC included all properties listed as “Existing,” “Under Renovation,” “Proposed,” and “Under Construction” with no square footage minimum.

**Warehouses:** Typically 25,000 square feet or greater in size, box shape, with one loading dock for every 15,000 square feet of Rentable Building Area (RBA). Up to 20 percent office area with clear heights of 22 feet or greater. Site coverage is typically up to 50 percent. MAPC included all properties listed as “Existing,” “Under Renovation,” “Proposed,” and “Under Construction.” A square footage minimum of 60,000 square feet was applied.

One limitation of CoStar is that the data only represents commercial/rental properties. Accordingly, if a property is owned and operated by the same entity and not leased, the property is likely to not be included in the CoStar database.

## Delivery Operations

Frequently, e-commerce companies such as Amazon lease and repurpose space in existing warehouses for distribution centers.<sup>20</sup> Distribution centers require large parking lots where employees can park their personal vehicles and the company can stage delivery vans. Distribution centers provide “last mile” package delivery and expedite deliveries to residences and businesses. Their deliveries typically cover a 45-mile radius and serve a market area within an approximate 60-minute driving time of the site.<sup>21</sup>

In general, the daily operations of distribution centers begin with the arrival of tractor trailers that bring packages in bulk from fulfillment centers throughout the night, usually starting after 11 p.m. Customer orders are then sorted, prepped, and loaded into hundreds of delivery vans. Each morning, delivery van drivers travel to the distribution centers, typically by personal vehicle. After arriving, the drivers get into a loaded delivery van, drive out of the site, and make deliveries to customers. Delivery drivers are usually scheduled to enter and leave the site during off-peak morning traffic times. After all deliveries are made, drivers will drive their delivery vans back to the distribution center in the evening and depart from the site.<sup>22</sup>

In many cases, the departure of delivery vans is scheduled in waves. As one wave of vans leaves the site, another is loaded. Waves can continue throughout the morning, depending on demand. When there is additional demand, on-call drivers will be used to fulfill customer deliveries. On-call drivers usually arrive in the middle of the day and use their personal vehicle to make deliveries. Once deliveries are completed, the on-call drivers do not return to the site.<sup>23</sup> Including tractor trailers, delivery vans, and on-call drivers, a typical facility can generate more than 1,000 vehicle trips each day.<sup>24</sup>

Amazon also works with third-party Delivery Service Partners (DSPs) to make deliveries. Independently owned companies, DSPs manage employee benefits, compensation, and address liability issues. Amazon Flex, a program where independent contractors, called delivery partners, deliver Amazon orders to customers, may be used but Amazon will first hire a DSP with their own vans to deliver packages.<sup>25</sup> Amazon Flex drivers use their own vehicles and deliver what cannot be accommodated by vans.

The variety of delivery vehicle owners and operators adds to the challenge of managing and regulating transportation impacts such as curb usage. The novelty of this rapidly evolving business/operations model means that traditional trip generation forecasting methods are not applicable.



Sortation systems and robotics automate and streamline orders inside warehouse facilities and increase the speed and intensity of their operations. Such technological innovations are projected to accelerate the e-commerce industry – and of course, could further increase the numbers of vehicles making deliveries.

## Impacts of E-Commerce on Retail Infrastructure

The United States has more retail space than any other country. Price Waterhouse Coopers has estimated that there are about 24 square feet of retail floorspace per person in the United States, followed next by 11 square feet in Australia and between two and five square feet in Europe.<sup>26</sup> Brick-and-mortar retail real estate is vastly overbuilt in the United States, with some industry experts estimating the amount of overbuild to be about 50 percent.

Many malls and other traditional retail locations have been contending with sizable and steady closures, vacancies, and declining profits over the past several years. Nationwide, physical-store closures reached an all-time high in 2017 and again in 2019.<sup>27</sup> According to Coresight Research, approximately 25 percent of all malls nationwide (approximately 1,000) are projected to close over the next five years.<sup>28</sup>

Despite these significant and steady declines, retail sales are not diminishing. Rather, the retail landscape is transitioning from malls and physical retail locations to warehouses and distribution centers. Online shopping's share of total retail sales has been increasing by approximately one percentage point per year.<sup>29</sup> The overbuild of brick-and-mortar retail, coupled with the rise in e-commerce, has accelerated as to what industry professionals refer to as the 'retail apocalypse,' which began during the Great Recession of the late 2000s.<sup>30</sup> Both trends – the decline of traditional retail and the dramatic increase in e-commerce – predate the pandemic but have been accelerated by it.<sup>31</sup>



*Photo: Example of an Underutilized Strip Mall; MAPC*

According to a July 2020 report by CBRE Group, Inc., a commercial real estate firm, an estimated 13.8 million square feet of retail space has been converted to 15.5 million square feet of industrial space over the past three years nationwide.<sup>32</sup> Depending on where e-commerce facilities locate and where in-person retail stores close, municipalities could face various land use and fiscal challenges.



Some malls are being converted to warehouse and distribution centers. One well-known example is the Randall Park Mall near Cleveland, Ohio. Touted in the mid-1970's as one of the nation's largest shopping centers, Randall Park Mall was abandoned in 2009 and became an Amazon fulfillment center in 2018.<sup>33</sup> The retrofitting of malls with housing, offices, and other non-retail uses is likely to continue. According to a report issued by Barclay's, turning a closed mall into an e-commerce warehouse or a residential complex could reduce the value of the property between 60 percent to 90 percent.<sup>34</sup>

Nationwide, Simon Property Group has been exploring with Amazon the possibility of converting some of the property owner's anchor department stores into Amazon distribution hubs. Since many malls are sited near major highways and residential areas, these sites are considered strategic locations for distribution centers. The Simon Property Group owns 14 properties, mostly in eastern Massachusetts.<sup>35</sup> Should Amazon and Simon Property Group come to an agreement about utilizing department stores in Massachusetts to warehouse/distribution centers, the land use impacts could be significant.<sup>36, 37</sup>

## State and Municipal Revenues

The effect of e-commerce on state and municipal revenues that come from state sales and income taxes and municipal property taxes is difficult to gauge and not yet fully known. A study by the Economic Policy Institute concluded that Amazon fulfillment centers do not generate broad-based employment growth and that state and local policymakers seeking to maximize long-term benefits should avoid extending tax incentives to lure these businesses. The report argues that investments in public services are more effective than tax incentives at generating long-term economic growth.<sup>38</sup>

In Massachusetts, North Andover approved an estimated \$27 million in tax incentives to Amazon for a 3.6 million square foot distribution center. This tax increment financing (TIF) agreement will reduce Amazon's property tax bill over a period of ten years. Amazon will not receive a state tax break for this site. North Andover is expected to receive \$18 million in new net tax revenue over the ten-year agreement. In the decade after the agreement expires, the Town anticipates receiving an additional \$45.5 million in property taxes from Amazon.<sup>39, 40</sup>

Amazon has received tax breaks for other facilities in Massachusetts. In 2015, Amazon received approval for nearly \$16 million in state and local tax incentives for a distribution center in Fall River and an estimated \$3.5 million for a facility in Stoughton. Amazon will also receive up to \$10 million in property tax breaks from the City of Boston for offices in the Seaport District.

## Impacts of E-Commerce on the Restaurant and Grocery Industries

The restaurant and grocery industries are undergoing disruption by e-commerce. A significant component of e-commerce includes restaurant delivery and prepared meals.<sup>41</sup> Nationwide, transactions from services such as DoorDash, Grubhub, Uber Eats, and Postmates increased by approximately 200 percent between 2015 and 2020, generating an estimated \$26 billion in revenue in 2020.<sup>42</sup> The pandemic, due to the attendant closure of restaurants and restrictions to takeout and delivery, has reversed the prolonged trend of declining grocery consumption relative to eating out. Since the pandemic, traditional grocery consumption has grown faster than both restaurant deliveries and eating out.

According to research firm Brick Meets Click, online grocery sales for home delivery and pickup reached \$5.9 billion in November 2020, a threefold increase from August 2019.<sup>43</sup> The volume in number of orders has more than tripled to almost 63 million, and the number of customers has more than doubled to nearly 39 million during this period – along with an increase in the average amount of spending per order and shopping frequency.

Despite these increases, grocery delivery comprises an estimated 4.9 percent of the total grocery market. Increases in the grocery market are attributed to a decline in in-store grocery sales, rather than new growth. There is consensus among industry experts that, due to consumer demand, investments in e-commerce technology are accelerating online grocery sales. It is forecasted that online grocery sales are expected to grow



to 20 percent of total grocery retail by 2025. However, the overall growth of the grocery sector will most likely be moderate in the long term.<sup>44, 45</sup>

To meet current demand and maintain market share, grocers are improving their operational efficiency and enabling online sales with investments in delivery infrastructure and e-commerce technology. Shop & Shop, for example, is adding “warerooms” to their stores. Usually attached to traditional retail stores, warerooms serve as e-commerce distribution/spaces.<sup>46</sup>

In some cases, retail and grocery stores have become places to accommodate various combinations of in-store shopping, curbside pick-up, and distribution center operations. In other instances, retail and grocery stores are being converted to operate as dark stores or micro-fulfillment centers for home delivery or curbside pick-up – the latter of which is preferred by most customers. According to grocery store chain Kroger, for every customer who wants a home delivery, five customers want curbside pick-up.<sup>47</sup> Municipalities are increasingly faced with the challenge to revise their zoning laws to accommodate for these new land use demands.

Also referred to as cloud kitchens, dark kitchens, or virtual food halls, a ghost kitchen is a single commercial facility that houses multiple restaurant operators who prepare food for takeout or delivery exclusively to fulfill online orders. An emerging model and type of facility, these operations have no storefronts and no dining areas for patrons. Ghost kitchens are comparable to a coworking space for restaurant operators, with the exception that there is no need for front-of-house labor. These types of facilities are typically owned and operated by a third-party company, not a restaurant, and meal delivery companies such as DoorDash, GrubHub, and Uber Eats deliver the food.

Opening a traditional restaurant can be expensive, high-risk, and complex: ghost kitchens are considered to be lower-risk and more affordable. The up-front costs of restaurant space and equipment can be shared and rented under a ghost kitchen model and the costs of front-of-house staff are eliminated. The ghost kitchen model enables existing restaurants to expand their customer base without having to invest in and establish full-service restaurants. It offers a lower cost of entry, and as such can benefit newcomers to the industry. The ghost kitchen model is considered to have a large potential market opportunity and technology is enabling the restaurant industry to rapidly change.<sup>48, 49</sup> The long-term land use implications of dark stores and ghost kitchens, especially as they pertain to street vitality and local economies are unknown, but should be monitored.



Photo (left): Delivery & Pick Up Prep Room - Dedham Stop & Shop, MAPC

Photo (right): A Curbside Pick Up Sign - Dedham Stop & Shop, MAPC



## ► Chapter 4: Context of COVID-19 Pandemic





## Context of COVID-19 Pandemic

While COVID-19 has accelerated certain consumer patterns and behaviors, many of the trends impacting e-commerce were already underway prior to the pandemic. Although the long-term impacts of the COVID-19 pandemic are less certain, much of the shift to e-commerce will likely remain.

The role of the COVID-19 pandemic in the spike in U.S. online retail sales in 2020 can be broken into **four major areas of impact**:

- ▶ **Growth in non-store shopping and greater downturns in brick-and-mortar retail:** Amazon, the largest online retailer, saw its business increase by 43 percent in 2020.<sup>1</sup> By comparison, industry experts anticipate 15,000 to 25,000 store closures in the U.S. in 2020, mostly in malls; a projection which will shatter the 2019 record of 9,800 closures. The COVID-19 pandemic is accelerating changes in urban and suburban land uses, as malls and shopping centers close and as Amazon and other online retailers increase the number of warehouses and distribution centers.
- ▶ **Increased growth in “click and collect” shopping:** Customers have learned to order online and pick up their orders at larger brick-and-mortar retailers, including Target, Walmart, and Home Depot, either in-store or at the curb. Retailers who have invested in their online presence with same day “touch free pickup” will continue to generate traffic, both online and in-person.<sup>3</sup> Stores morphing into both in-person shopping and distribution/fulfillment centers may require the repurposing of parking lots. Parking areas may need less customer parking, but more space for curbside pickup and loading for trucks and vans. Measures to repurpose these facilities could cause increases in car, van, and truck traffic.
- ▶ **More online grocery purchases:** Amazon’s growth in 2020 has been led by their growth in grocery orders via Amazon Fresh and Whole Foods. Since the pandemic started in March 2020, 21 percent of consumers have tried online grocery shopping for the first time. Of that 21 percent, many have continued to shop for groceries online even as they also physically returned to food stores.<sup>4</sup>
- ▶ **Accelerated growth in online restaurant orders:** Over 40 percent of restaurants surveyed added delivery options during the pandemic. Many have stated that they will retain delivery options,<sup>5</sup> which means increases to curbside traffic and deliveries to households.

The pandemic has prompted more households to try their hand at e-commerce services that they may have not previously attempted. Once shopping habits are developed during the COVID-19 pandemic, these habits may continue. Any long-term shifts will likely mean changes in the physical layout and staffing of local retail facilities, along with increased delivery traffic, as stores and restaurants become both in-person destinations and distribution centers of online orders.



## ► Chapter 5: Future Trends and Additional Research Areas





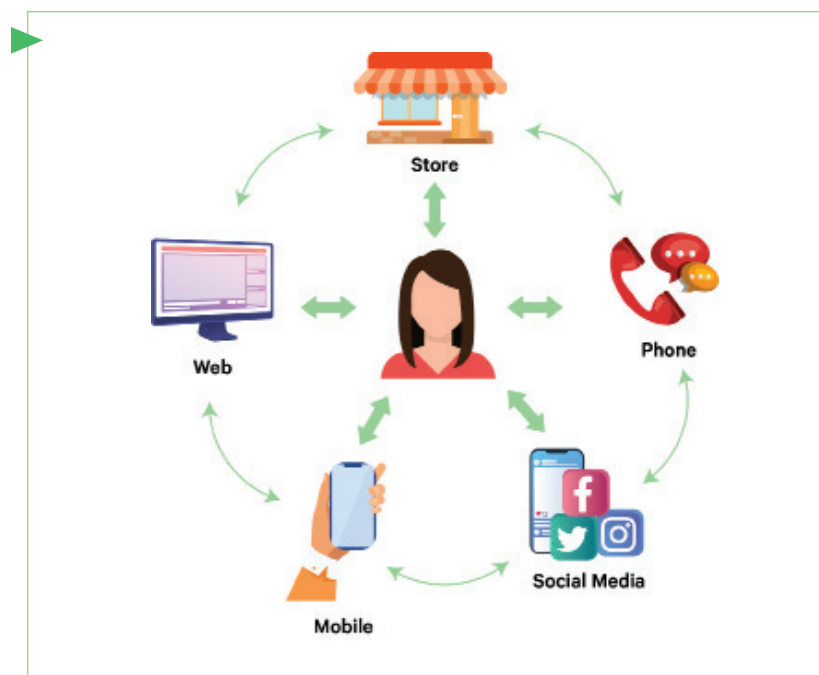
While writing this report, MAPC uncovered several trends and topics that were beyond the scope of this work, but which may be of interest to municipalities, policy analysts, and others. MAPC will continue following these trends and may study them further in the future.

## Omni-channel Retail

It is projected that e-commerce by itself will not be the future of retail. Rather, e-commerce will be omni-channel. Omni-channel retail integrates multiple sales channels (e.g., brick-and-mortar store, smart phone, laptop). The goal of the omni-channel retail business model is to provide customers with a seamless and a personalized shopping experience. Due to centralized data management, omni-channel retail simultaneously manages inventories (Figure 11).

Facilitated by technology and based on predicting customer behaviors, the omni-channel business model uses social media and is anticipated to apply emerging technologies such as augmented reality and personalized video soon. Omni-channel retail will successfully leverage and blend the online and in-store shopping experiences. Presently, the leading retailers in this space are Target and Walmart.<sup>1,2</sup> Further research of omni-channel retail will allow for a better understanding of future e-commerce trends in in-person or online shopping, the siting of warehouse and distribution centers and brick-and-mortar stores, and trip patterns.

Figure 11. Omni-channel Retail





## Sustainable Logistics

E-commerce logistics and delivery companies such as Amazon, Walmart, and UPS have announced goals to attain carbon neutrality and are making investments in the electric vehicle market.<sup>3</sup>

In September 2019, Amazon announced a Climate Pledge. As part of the Climate Pledge, Amazon plans to have 10,000 electric delivery vans on the road by 2022 and 100,000 by 2030.<sup>4, 5</sup> In June 2020, Amazon launched a \$2 billion fund to help attain carbon neutrality by 2040.

In September 2020, Walmart announced an initiative to reduce its global carbon footprint and is aiming for zero carbon emissions by 2040 for all its global operations. Part of this initiative is to convert to an all-electric vehicle fleet.<sup>6</sup> Similarly, in January 2020, UPS announced plans to add 10,000 electric trucks to its fleet,<sup>7</sup> and DHL has launched a GoGreen initiative that aims to perform 70 percent of last-mile deliveries with green vehicles by 2025, and reduce its logistics emissions to zero by 2050.<sup>8, 9</sup>

Additional research is needed to better understand how these programs are being deployed, the types of vehicles that are being invested in, and how other e-commerce companies can replicate programs by these early adopters.

## Waste and Recycling

Increasing e-commerce creates greater demand for cardboard and recycling, as well as packing materials that are not always recyclable. Recently, Amazon has turned to lighter weight plastic envelope mailers, which save both space and fuel, but which are not recyclable in some local single-stream recycling programs.<sup>10</sup> Additional research is needed to understand how the growth and changes in package materials are affecting the production of packaging in Massachusetts as well as waste and recycling.

## Shifts in the Warehouse and Distribution Center Marketplace

An increasing number of retailers are incorporating e-commerce, including making more deliveries and offering click-and-collect options. This further amplifies the demand for warehouse and distribution centers. Prologis, an owner, operator, and developer of industrial real estate, estimates that e-commerce retailers need approximately three times the warehouse space to generate revenues comparable to brick-and-mortar sales. In other words, to generate \$1 billion of revenue, a traditional retailer needs about 350,000 to 400,000 square feet of warehouse/distribution space, while an e-commerce retailer needs about 1.2 million square feet.<sup>11</sup> More research is needed on how the shift of in-person retail to online business models affect the size and spacing of warehouse and distribution centers and the warehouse real estate marketplace in Massachusetts.

## Third-Party Delivery Service Fees

Many consumers use third-party, app-based delivery platforms such as Grubhub, Uber Eats, DoorDash, and Postmates to place orders with restaurants for delivery. These third-party platforms charge restaurants delivery commission fees based on the purchase price. The fees are usually between 20 percent and 30 percent.<sup>12</sup> The Economic Development Bond Bill, which was passed by the Massachusetts General Court and signed to law by Governor Baker in January 2021, approved a 15 percent cap on these fees for the duration of the pandemic state of emergency.<sup>13, 14</sup> It is expected that this legislation will balance both the business interests of third-party delivery companies and the restaurants serviced by them.

## Residential and Commercial Building Design

As noted in Chapter 1, e-commerce and deliveries create a need for more parcel delivery and storage. This can be expected to affect the design of residential and commercial buildings, most of which were not designed for the heavy volumes of packages currently being delivered. For example, residential buildings will increasingly need to be designed with sufficient storage for packages and with refrigerated areas for groceries. The design of single-family houses could include repurposing porches and garages to serve as secure storage areas for deliveries.<sup>15</sup> Research is needed to identify potential design practices. This information can inform updates to zoning and building codes that would enable more efficient deliveries.



## ► Chapter 6: Potential Policy Responses to E-Commerce





Municipalities have an important role regarding the siting and operation of distribution/ warehousing facilities, and their approaches should align with and advance transportation, economic, and sustainability goals for the region.<sup>1</sup> While many of the following strategies can be implemented on the local level, others should be done regionally through regional planning agencies (RPAs). Some strategies could be implemented via the Commonwealth (agency to be determined) and may require state legislation to implement.

## Regional Coordination Among Municipalities

Municipalities must coordinate with one another proactively to understand e-commerce's cumulative impacts and to develop a comprehensive, regionwide strategy that can inform long-range planning and freight planning. The strategy should balance the region's vision and goals for employment, land uses, and traffic management with the needs of the private sector.

A comprehensive strategy can include standards for facility siting and design, transportation demand management policies, equitable employment practices, tax incentive programs, and operations monitoring. It can establish performance metrics, evaluation criteria, and formulas for determining mitigation fees. A comprehensive strategy can also identify specific recommendations for zoning, building codes, and other local regulations that manage the growth and impacts of e-commerce. Drawing from lessons learned in Boston and elsewhere, it can also spell out ways that municipalities can promote low-carbon, low-traffic last-mile delivery services.

The regional strategy should also include the development of an online transportation and land use design playbook for municipalities. This would help municipalities implement development standards and review specific facility proposals through a lens of equity, sustainability, and municipal finance. Standards may include designating truck routes to avoid residential neighborhoods, implementing safety measures to reduce conflicts on roadways, and requiring the use of cleaner vehicles (e.g., compliance with EPA emission standards).<sup>2</sup> With a common playbook, every municipality will be in a better position to consistently respond to facility proposals.

## Increase Transparency into the Growing E-Commerce Industry

The Commonwealth should require e-commerce companies to report information and metrics, such as the location of warehouse and distribution centers; employment (status, occupation, wages, and benefits); and transportation impacts (e.g., truck and other vehicle traffic) of e-commerce logistics and delivery. This data collection is a critical step in understanding and sustainably managing the impacts of e-commerce. New legislation authorizing state agencies to require this data may be needed.

## Create Incentives for Efficient Deliveries

Both the public and private sectors should incentivize more efficient deliveries to reduce traffic and associated GHG impacts. This can be done by determining a method to assess the impact of e-commerce on congestion and GHG emissions, and then setting a fee structure that incentivizes both companies and customers to opt for the more sustainable delivery options. These options can include combining orders into a single delivery, using common delivery/pick up areas such as package lockers, and not choosing expedited deliveries.

## Track Innovations in E-Commerce

The Commonwealth and regional planning agencies should track new technologies and innovations in the e-commerce industry to ensure that these developments have positive impacts. Amazon, UPS and others have implemented package lockers to make the last-mile delivery process more efficient, and implemented pilot programs with cargo bikes, autonomous vehicles and drones in select areas such as college and medical campuses. RPAs and others should monitor these new developments against public-sector performance standards for traffic congestion, GHG emissions, safety, waste, employment, workers' rights, and equitable service. Where needed, the Commonwealth and municipalities should develop regulations to minimize impacts and sustainably manage these innovations.



## Implement Curb Management Strategies

The explosive growth in e-commerce deliveries and ride-hailing is spurring municipal endeavors to control curbside congestion. Controlling curb space serves multiple functions, including providing access for e-commerce. The challenge is to manage this public right-of-way for all users, rather than just for the efficient delivery of goods. The following recommendations manage the curb are anticipated to promote a more efficient use of curb space and to reduce emissions caused by “cruising for parking” and engine idling.<sup>3</sup>

- ▶ **Conduct a comprehensive assessment of curb demand and designate spaces for the use of delivery vehicles.** There should be sufficient numbers of these spaces, and they should be distributed appropriately. The designation for deliveries could be both by location and time of day to allow for flexible uses. For example, curb lanes could be reserved for buses in peak commute periods, reserved for deliveries and other short-term uses at mid-day, and then allowed for overnight parking of private vehicles.
- ▶ **Establish mechanisms for delivery companies and TNCs to reserve those spaces as needed and to pay for the privilege of doing so, using a dynamic pricing model that will maximize efficient utilization of designated spaces.** Examples include providing discounts for TNC riders who walk to designed pick-up zones away from high traffic streets, and peak-period surcharges for deliveries (e.g., a grocery delivery will cost more if delivered at 5:30 pm).
- ▶ **Establish comprehensive and effective enforcement mechanisms** that can utilize both in-field enforcement and camera- or GPS-based enforcement with penalties and sanctions for violations, especially for violations in transit and active transportation facilities.
- ▶ **Conduct continuous re-evaluation of curb uses and violations** to determine if the curb management policies should be revised to ensure mobility goals (and other goals) are being met.



## ► Chapter 7: Next Steps and Areas for Further Research





This report identified trends where data was available to determine the impacts of e-commerce on our Commonwealth, particularly with regard to land use and traffic. As this report makes clear, while there is abundant evidence that e-commerce is a significant and growing part of the Commonwealth's economy, we know little about essential details such as trip generation, GHG emissions, local and regional impacts on brick-and-mortar retail, and on land development needs for warehouse and distribution centers.

Finally, the growing e-commerce sector has impacts in other areas not explored in detail in this report, including the environment (e.g., packaging waste), safety, employee rights and benefits, equity, and shifting employment and tax revenues.

Much more work needs to be done to understand this enormous and rapidly changing industry and its significant social and economic consequences. A deeper understanding will put the public sector in a better position to both manage the growth of the e-commerce sector and ensure the advancement of critical regional and local goals.

To collect information and meet this challenge, MAPC has identified the following steps: Data Collection, Management of Warehouse and Distribution Centers, Data Sharing Legislation, and Information Sharing.

## Data Collection

**Continue investigating available data sources to better understand the composition of the e-commerce workforce in Commonwealth, the scale of the industry, and its impacts on congestion, emissions, tax revenue, and other topics.** The impacts of e-commerce on malls and traditional retail, land use, the transportation network and employment all need to be better understood. MAPC and other RPAs should work with state agencies and municipal officials to identify and gain access to administrative data that can help shed light on these issues.

Additionally, more immediate data collection and analysis needs to be done in the following areas.

### ► **Research online sales versus traditional retail in Massachusetts.**

This research will uncover the extent to which online retail trends (and their impacts) in Massachusetts compare with the nation. Regional data from brick-and-mortar retail sales can shed light on geographic differences of e-commerce's impacts on traditional retail in the Commonwealth. Understanding the level of e-commerce retail in Massachusetts will help policy makers determine better ways to manage the land development, employment, and tax impacts of the shifting retail landscape.

### ► **Research the changes in Massachusetts retail and other key employment sectors by income and demographics.**

This research will enable policy makers to better understand the economic and equity impacts of the shift from in-person to online retail in the Commonwealth. Furthermore, this research could uncover the extent to which the growing number of e-commerce jobs, particularly delivery positions, are filled by independent contractors who may have limited or no retirement, paid leave, and health insurance benefits.



► **Research the changes in Massachusetts retail and other key employment sectors by geography.**

Not all e-commerce warehouse and distribution are accessible by public transportation, and their operations could create negative traffic, noise, and air quality impacts. It is important to know if, as distribution centers are increasingly located within urbanized areas to meet demand, these centers are being situated in communities of color and lower-income neighborhoods and creating disproportionate impacts.

► **Research the municipal fiscal impacts of e-commerce.**

More needs to be understood about the tax revenue implications for municipalities that experience mall and other traditional retail closures, and about the economic impacts to municipalities that host more e-commerce warehouses and distribution centers. While tax incentive programs, such as TIFs, encourage growth by lowering taxes in exchange for job creation and private investment, the long-term implications are unclear, and more research is needed.

► **Analyze online delivery vehicle patterns and volumes.**

This information could be obtained by conducting studies of larger scale residential buildings, e-commerce warehouse and distribution centers, and congested urban areas to better understand traffic and delivery trends. Findings from these studies could be used to create pilot programs for new delivery systems (e.g., e-cargo bikes, electric vehicles), to deploy innovative curb management practices, and to implement local options to moderate traffic and other impacts of e-commerce distribution and warehouse centers.

► **Investigate available sources of data about consumer preferences and shopping habits.**

More specific survey data are needed to determine the extent to which online orders may be replacing personal trips. Based upon similar national survey data, MAPC should determine whether a Massachusetts-focused survey of e-commerce consumer patterns is needed. If so, the agency would develop partnerships and solicit funding for a broad-based survey that would provide statistically significant results at the sub-regional level and for specific segments of the population. This information could be used to better estimate vehicular traffic, the number of deliveries per household, and the extent to which the number of deliveries per household varies according to demographic factors such as age, income, and automobile ownership.



## Management of Warehouse and Distribution Centers

**Collect and distribute actionable steps and example practices for municipalities for the review of warehouse and distribution centers.** The integration of warehouse and distribution centers will require deliberate design, mitigation, and management, especially where e-commerce facilities are proximate to higher density residential areas.

MAPC has been conducting research on how municipalities in Massachusetts are currently mitigating and managing the impacts of warehouse and distribution centers, and as an early follow up to this report, will develop a document on the management of e-commerce warehouse and distribution centers as a resource for other municipalities.

## Data Sharing Legislation

Based upon the findings from the additional research above, **draft legislation that will authorize state agencies to require e-commerce companies to provide data on impacts of critical public concern where it has been determined that information is not available.** As noted in Chapter 6, this legislation is needed to create visibility in the e-commerce industry and sustainably manage its impacts in employment and workers' rights, safety, traffic, equity, and the environment. The adoption of legislation will require the cultivation of advocacy partners and legislative sponsors.

## Information Sharing

**Regularly collect, compile, and evaluate permitting and monitoring documents for warehouse and distribution facilities statewide,** including information about economic incentive programs and tax revenue collections. The collected information will be publicly available and configured to allow for comparative analysis.

A consistent data collection method will enable a consistent approach to monitoring warehouse and distribution center projects, identifying example policies, and assessing the cumulative siting of warehouse and distribution facilities. This information will also aid in right-sizing mitigation and forecasting trip generation rates.

**Create a research clearinghouse on e-commerce, including findings from local pilot programs.** As a regional planning agency, MAPC intends to serve as a resource for continued information sharing and findings from surveys and pilot programs. Please e-mail [ecommerce@mapc.org](mailto:ecommerce@mapc.org) with relevant information you would like to contribute as part of this effort as well as to be informed of future initiatives.



# ► Appendix: Playbook of Actionable Steps to Manage Warehouses and Distribution Centers





The integration of warehouse and distribution centers will require deliberate design, mitigation, and management, especially if they are proximate to higher density residential areas.

Below are actionable steps for municipalities to consider implementing should a warehouse and/or distribution center be proposed for e-commerce related services. It is important to note that there is not one actionable step; rather several steps need to occur simultaneously.

MAPC conducted research on how municipalities in Massachusetts are currently mitigating and managing the impacts of warehouse and distribution centers. Several of the actionable steps contained in this chapter are based on that research. In particular, Everett's site plan approval process and the Traffic Engineering Peer Review recommendations for the Hingham contributed to the development of this chapter.<sup>1</sup> MAPC anticipates this section will be expanded as ongoing work continues and to reflect changes in the industry.

## Traffic Impact Studies



At a minimum, traffic impact studies should include the following:

- Projected trips for all vehicular types (e.g., employee vehicles, vans, trucks, and flex drivers).
- Site design (ingress, egress, and circulation).
- Accommodations for pedestrians and bicyclists.
- Amount of parking.

## Trip Forecasting

Presently, the Institute of Transportation Engineers (ITE) Trip Generation Manual<sup>2</sup> does not include a land use type that is directly applicable for warehouse and distribution centers. While ITE Land Use Codes for Industrial Park (140), Warehousing (150), High Cube Fulfillment Center Warehouse (155), and High-Cube Parcel Hub Warehouse (156) are related, they are not an exact match for e-commerce operations. If the ITE Trip Generation Manual does not include data for a similar land use, MAPC recommends the application of empirical trip data. According to ITE, "When practical, the user is encouraged to supplement the data in this document with local data that have been collected at similar sites."<sup>3</sup>

Since complex logistics facilities such as warehouse and distribution centers are not included in the ITE manual, trip forecasting should be based on proponent's plans for facility activity; and permits should be structured so as to establish clear, enforceable performance metrics for vehicle trips to and from the site.



## Site Plan Review

- ▶ A comprehensive site plan review and approval process should address the adequacy of the following:
- Building Design
  - Parking and Loading Facilities
  - Proposed Number and Type of Parking Spaces
    - *Provide a breakdown of the parking demands by functional use (i.e., associates/managers, visitors, Delivery Service Providers (DSPs) vans and drivers, etc.) in order to demonstrate that the proposed number of parking spaces is sufficient to meet the predicted parking demands.*
  - Traffic flow, Circulation, and Traffic Impact
    - *Access points and routes to and from the site to adjoining streets*
    - *Pedestrian and bicycle circulation systems to and from parking areas and structures*
  - External Lighting
    - *Type and amount to be provided*
  - Landscaping and Screening
    - *Type, quality, and quantity to promote an aesthetically pleasing environment and to properly screen the development from adjacent land uses*
  - Stormwater
    - *Method of surface drainage*
  - Utilities
    - *Methods of waste disposal (e.g., sewage and refuse) and water distribution*
  - Snow Removal and Storage
  - Protection and Enhancement of Natural Features
  - Compatibility of Architecture with Surrounding Area

## Traffic Mitigation

Negotiate appropriate traffic mitigation agreements.

- ▶ Traffic concerns residents frequently express regarding warehouse and distribution centers are as follows:
- Queuing, traffic, and idling on-site and in the community.
  - Trucks and vans utilizing residential streets and trucks accessing bridges with low underpasses.
  - Vehicles overwhelming gas stations when shifts begin or end.
  - Illegal off-site parking.
  - Vans pulled off to the sides of roads creating hazardous conditions for drivers to pass.
  - Processions of trucks and vans causing traffic at key intersections.

Traffic mitigation agreements can include the installation of traffic signals, intersection improvements, and monetary contributions.

## Restriction Zones

Where appropriate, such as where a warehouse is adjacent to a residential area, restrict truck and van access during certain times of the day/or day of week. This measure can reduce congestion and the road impacts of the facility on nearby neighborhoods.<sup>4</sup>



## Off-Site Parking

To minimize logistical and traffic issues, it is recommended that parking for all vehicular operations remain on-site. It critical that the on-site circulation plan be designed to reduce potential conflicts with different vehicle types, pedestrians, and bicyclists, and to minimize vehicles queuing in the street.

## Traffic Demand Management (TDM) Program

Implement a Traffic Demand Management (TDM) program that will discourage employees from traveling by single occupancy vehicles. TDM components can include discounted MBTA passes, internally secure bike racks, carpooling incentives, and a shuttle service accessing the Commuter Rail and MBTA Stations.

## Fueling Operations

It is common practice for e-commerce companies to assign fuel cards to drivers or vehicles. To manage traffic and queuing, municipalities should work with e-commerce companies to determine appropriate times (e.g., on return trips) and locations for refueling. This will help ensure vans don't overwhelm gas stations when shifts begin or end.

## Excise Tax

A proposed facility's vans should be required to be registered in the municipality where the facility is sited so the municipality can capture the excise tax.

## Vehicular and Roadway Signage

To promote public awareness and safety, ensure that vehicles (e.g., vans) and the site are appropriately signed.

## Idling

Do not permit on or off-site idling for all vehicles servicing the facility.

## Truck and Van Drivers

Prior to making deliveries, require all Delivery Service Provider (DSP) companies to be properly insured and perform driver background checks.

Be informed of truck and van driver protocols such as training, discipline, and incident (e.g., speeding) procedures.

## Project Monitoring Post Occupancy and Corrective Actions

Including a traffic monitoring program is essential. For example, the Traffic Engineering Peer Review for Hingham recommended a monitoring program that will commence within 90 days of the issuance of a Certificate of Occupancy for the Project and be repeated annually.

Any monitoring program should include established thresholds for traffic and/or motor vehicle crash volumes for trucks, vans, and passenger vehicles.

In Hingham, it was also proposed that to the extent measured traffic volumes for the project exceed the projected traffic volumes by more than 10 percent (i.e., 110 percent of the projected traffic volumes) and/or the calculated motor vehicle crash rates exceed the MassDOT average crash rates for similar intersections, corrective actions to reduce the unmitigated impact of the project should be proposed and implemented. Corrective actions should be documented in the traffic monitoring report.



# Endnotes

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## Appendix

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# Hidden and in Plain Sight: Impacts of E-Commerce in Massachusetts





## ► Authors

**Primary Authors:** Alison Felix, AICP, Senior Transportation Planner & Emerging Technologies Specialist; Travis Pollack, AICP, Senior Transportation Planner

**Contributors:** Eric Bourassa, Director of Transportation; Josh Eichen, Senior Economic Development Planner; Alyssa Kogan, Regional Planning Data Analyst; Lily Perkins-High, Analytical Services Manager; Tim Reardon, Director of Data Services; Kit Un, Visual Designer

**Editor:** Karen Adelman, Senior Communications Strategist

**MAPC Director:** Marc Draisen, Executive Director

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## ► About MAPC and this Report

The Metropolitan Area Planning Council (MAPC) is the regional planning agency for the 101 cities and towns of Greater Boston. Our mission is to promote smart growth and regional collaboration.

Today, the Commonwealth is seeing rising numbers of delivery trucks and vans on the roadway network as people increasingly ordering online for goods, meals, and groceries. For these deliveries to arrive timely each day, a sophisticated logistics network of warehouses, distribution centers, and delivery vehicles needs to be in place. While the effects of this growing form of retail on the roadway network may be noticeable, e-commerce is also having effects on land use, traditional retail, and employment which are not as directly apparent.

MAPC has undertaken *Hidden and in Plain Sight: Impacts of E-Commerce in Massachusetts* to better understand how e-commerce affects the region's communities, and to provide a resource for municipalities and policy makers grappling with the rapid growth and multiplying impacts of this expanding form of retail.

This report concentrates primarily on the transportation and land use effects of increasing online shopping, highlighting key trends both nationally and in Massachusetts. We suggest directions for further research, and we put forward potential policies that could help communities sustainably manage the growth in warehousing and distribution centers and its associated delivery traffic.

MAPC intends to serve as a resource for continued information sharing and findings from e-commerce surveys and pilot programs and conduct research on how municipalities in Massachusetts are currently mitigating and managing the impacts of warehouse and distribution centers. As a follow up to this report, MAPC plans to collaborate with municipalities to develop a playbook on the management of e-commerce warehouse and distribution centers as a resource for other municipalities. Please e-mail [ecommerce@mapc.org](mailto:ecommerce@mapc.org) with relevant information or to be informed of future initiatives.





# Executive Summary

## E-Commerce Today

E-commerce – the buying and selling of goods or services via the internet, and the transfer of money and data to complete the sale – is a \$600 billion industry in the United States, comprising approximately 14 percent of total retail sales.<sup>1,2</sup> In 2019, Amazon alone delivered about 2.5 billion packages in the United States, an estimated 20 packages for every household.<sup>3</sup> In the first 9 months of 2020, which forced many to remain at home due to the pandemic, e-commerce sales increased 34 percent. The increasing availability and use of next-day and same-day deliveries and the growth in restaurant deliveries via third-party apps such as Uber Eats also fueled this rapid growth.



Despite its impressive growth, e-commerce currently represents less than a fifth of total retail sales. Yet its impacts on traffic, employment, and land development are already apparent across the U.S. In Massachusetts, the impacts of e-commerce can be seen in shifts in employment and in the growth of warehouse and distribution centers. The state's non-store retail employment – which includes online retail occupations – grew 64 percent from 2010 to 2019, while its employment in transportation and warehousing increased 30 percent. During this same period, traditional retail employment numbers in Massachusetts remained relatively flat.

The rapid growth of e-commerce has had widespread effects, especially on transportation networks and land use. These impacts include increased traffic and emissions from delivery vehicles, greater competition for curb space during deliveries, and greater demand for land for warehouse and distribution centers. Amazon, the world's largest retailer, has 34 facilities either operating or proposed in Massachusetts. Once all facilities are operational, the Amazon footprint in Massachusetts will comprise over 12 million square feet of warehouse and distribution space.<sup>4</sup>

A significant component of e-commerce is restaurant delivery and the purchase of prepared meals.<sup>5</sup> Nationwide, transactions from services such as DoorDash, Grubhub, Uber Eats, and Postmates increased approximately 200 percent between 2015 and 2020, generating an estimated \$26 billion in revenue in 2020.<sup>6</sup> Online grocery sales for home delivery and pickup reached \$5.9 billion in November 2020, a threefold increase from August 2019. The volume of orders has more than tripled to almost 63 million, and the number of customers has more than doubled to nearly 39 million during this period. There is also an increase in the average amount of spending per order and shopping frequency.<sup>7</sup> Many industry experts believe that the consumer shift to online grocery delivery and pickup will continue even beyond the COVID-19 pandemic.<sup>8,9</sup>

There are also equity concerns, including whether low-income neighborhoods and communities of color are disproportionately bearing the traffic, noise, and air pollution from distribution facilities, and whether the shift from traditional retail jobs to warehousing and deliveries is having a greater impact on certain subsets of the population, especially in regard to employment, wages, benefits, and working hours.

Other impacts include reduced spending and associated employment and tax-revenue generation at brick-and-mortar retail stores, and the possible erosion of job security due to a shift toward the use of contractors for deliveries.



Of course, not every effect of e-commerce is negative. The online retail business model and economies of scale have lowered prices for many consumer goods, and have enabled home-bound and carless residents to purchase goods, services, and foods that might otherwise be unavailable to them. Unfortunately, a lack of reliable data makes assessing impacts difficult and complicates the task of managing e-commerce to ensure greater equity and sustainability in the region.

## Transportation Impacts

In response to the needs of e-commerce, the supply chain has expanded and evolved. It is now a vast network of interconnected facilities that can terminate not at a store, but at the consumer's home.<sup>10</sup> The resulting increase in delivery-vehicle traffic affects the region's transportation network.

Since 2010, total Vehicle Miles Traveled (VMT) nationwide has grown nine percent overall, with a 13 percent increase in urban areas. In Massachusetts, between 2010 and 2019, total VMT grew 19 percent statewide and 23 percent in urban areas.<sup>11</sup> Some of this can be attributed to recovery from the Great Recession, but there is also evidence that e-commerce and the widespread adoption of ride-hailing services are contributing to the growth and its impacts.



It is difficult to determine the extent to which e-commerce deliveries may be replacing vehicle trips for shopping. In theory, a consolidated delivery system of e-commerce could reduce VMT as compared to individual households making their own shopping trips in cars. The reality is more complex. A single online order may arrive in multiple shipments. Thirty percent of online orders are returned, and 15 percent never make it to the correct address on the first delivery attempt.

At least one survey suggests, perhaps counterintuitively, that the more in-store shopping trips a household conducts per week, the more weekly online packages the household receives. Moreover, higher-income households are more likely to pay for expedited or same-day deliveries. These services have relatively greater traffic impacts, since expedited deliveries are typically shipped in a single package and are less likely to be consolidated with other packages for delivery efficiency.<sup>12, 13</sup>

The growth in e-commerce creates conflicts on local streets. Deliveries compete with bicycle lanes, on-street parking, transit stops and bus lanes, as well as with passenger pickup and drop off. These conflicts are not limited to business districts and commercial areas; they also occur in residential neighborhoods that rely on on-street residential parking. Outdated curb regulations and pricing policies and ineffective enforcement are ill-suited to an era in which commercial demands for curb space are growing so rapidly.<sup>14</sup>

E-commerce distribution nodes also strain the transportation system. These facilities are often 24-hour operations, typically generating more than 1,000 vehicle trips each day.<sup>15</sup> They are frequently located in places where access by public transit is limited.<sup>16</sup>



## Land Use Impacts

The pressure to maintain dependable and ever-quicker delivery times has resulted in e-commerce companies adding warehouse and distribution centers closer to consumers as part of their regional networks.<sup>17</sup> In 2020, Amazon opened more than 175 new fulfillment centers, sortation centers, delivery stations, and regional air hubs in the U.S. and Canada, a trend that shows no signs of slowing.

The competition to add warehouse and distribution centers has resulted in a high demand for industrial real estate, particularly in urban areas. In urban Boston, warehouse rents have increased 42 percent over the last two years.<sup>18</sup> Primarily sited in industrially zoned areas, these facilities require both substantial amounts of land and easy access to the regional highway network.<sup>19</sup>

The U.S. has more retail space than any other country. Even in the absence of e-commerce, the nation's retail space is considered to be "overbuilt," and that in-person retail activity is insufficient to support the existing retail footprint. Malls and commercial real estate have been contending with sizable and steady closures, vacancies, and declining profits over the past several years. Nationwide, physical-store closures reached an all-time high in 2017 and again in 2019.<sup>20</sup> Approximately 25 percent of all malls nationwide (approximately 1,000) are projected to close over the next five years.<sup>21</sup> At the same time, online shopping's share of total retail sales is projected to increase to 25 percent by 2026, if not sooner.<sup>22, 23</sup> These trends, a function of changing consumer behavior and a rise in e-commerce, predated the pandemic; but the social distancing and economic recession associated with the pandemic have accelerated physical retail decline.<sup>24</sup>




## Potential Policy Strategies and Next Steps

E-commerce is changing our economy, consumer practices, and society. It is imperative that state and municipal governments prepare for and manage these disruptions. Land use and transportation policy and planning can ensure that the growth of e-commerce helps the region and the state to achieve its goals related to transportation, equity, economic growth, and sustainability.<sup>25</sup> The **five potential policy strategies**, which can be implemented at the state and local levels, identified in this report include:


**Advance regional coordination among municipalities.** Create a regional strategy for the siting and operations of warehouse and distribution centers to manage impacts such as traffic congestion and emissions. The regional strategy includes developing a transportation and land use design playbook for municipalities, which would include recommendations about zoning, building codes, proposal review, mitigation, tax incentives, and monitoring. A playbook will promote consistency and ensure a level playing field across cities and towns.

**Increase transparency in the growing e-commerce industry.** Require e-commerce companies to report information and metrics such as the location of warehouse and distribution centers, employment, and transportation impacts of e-commerce logistics and delivery. Data sharing is a critical step to understand and sustainably manage the impacts of e-commerce.





**Establish incentives for efficient deliveries.** Both the public and private sectors should incentivize more efficient deliveries to reduce traffic and associated greenhouse gas impacts. This can be done by determining a method to assess the impact of e-commerce on congestion and emissions, and then setting a fee structure that incentivizes companies and customers to opt for more sustainable delivery options, such as combining orders into a single delivery and not choosing expedited deliveries.



**Implement curb management strategies.** After conducting comprehensive curb space inventories, municipalities should use that information to establish curbside management policies that reduce congestion, safety risks, and conflicts. These policies should designate delivery and loading zones, establish dynamic pricing mechanisms to foster efficient utilization of the zones, and authorize rigorous enforcement practices.



**Track innovations in e-commerce.** Track new technologies and innovations in the e-commerce industry such as package lockers, cargo bikes, air and ground drones, and autonomous vehicles to minimize negative impacts while ensuring public safety and convenience.



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## Frequently Used E-Commerce Industry Terms

*Frequently used e-commerce industry terms which are also applied throughout this report:*

- ▶ **Click and Collect:** Models offered by retailers such as Target, Walmart, and grocery stores. Orders are placed online and picked up by the purchaser curbside at the store or in the store.
- ▶ **Dark Store:** A store that stocks items for fulfillment but is not open to the public.
- ▶ **Delivery Service Provider or DSP:** Independent delivery organizations that help e-commerce providers such as Amazon deliver packages.
- ▶ **Distribution Center (or Fulfillment Center):** A building specifically designed to receive, store and redistribute goods and designed for rapid turnaround for e-commerce and similar “just in time” product deliveries.
- ▶ **Ghost Kitchen:** A single commercial facility that houses multiple restaurant operators who prepare food for takeout or delivery exclusively to fulfill online orders. Also referred to as cloud kitchens, dark kitchens, or virtual food halls.
- ▶ **Package Locker:** Self-service secure containers where customers can pick up packages at their convenience. Also referred to as parcel lockers.
- ▶ **Warehouse:** A large building where raw materials or finished goods are stored, for either a short or longer time. Warehouses can include buildings designed to fulfill e-commerce orders.



# Chapter 1: E-Commerce in the US

E-commerce is a \$600 billion industry in the United States,<sup>1</sup> having grown by more than 300 percent since 2010. This shift in how Americans shop is impacting traffic, with millions of daily deliveries to businesses and households. It is changing the built environment by shifting retail activity from traditional retail locations to an increasing number of e-commerce warehouse and distribution centers in both suburban and urban areas. The pandemic has accelerated these changes, with a greater growth of online commerce and more home deliveries of all types of retail, including groceries.

MAPC, the regional planning agency for Greater Boston, has undertaken this study to better understand how the rapid growth in e-commerce impacts the region's communities, and how municipalities and the Commonwealth can meet the streetscape and land use challenges that online retail is creating. MAPC intends to serve as a resource for continued information sharing and findings from e-commerce surveys and pilot programs and conduct research on how municipalities in Massachusetts are currently mitigating and managing the impacts of warehouse and distribution centers.

This study highlights key trends both nationally and in Massachusetts, and concludes with suggestions for further research.





## Introduction

**E-commerce**<sup>2</sup> is the buying and selling of goods or services via the internet, typically with the online transfer of money and data to complete the sale. It can be business to consumer, direct to consumer, business to business, and consumer to consumer (e.g., on platforms such as eBay).<sup>3</sup> Although it's been around since the invention of the modem, e-commerce has grown rapidly over the last ten years, thanks to advances in technology. Leaps in mobile technology, wireless networks, order tracking, online financial transactions, and logistics have all contributed to e-commerce's rise.

The growth in e-commerce is affecting both transportation networks and land uses (zoning, building design, etc.) at both the regional and local levels:

- ▶ **Increasing traffic** with a greater number of vehicles delivering goods to warehouses and distribution centers and vehicles delivering individual orders to consumers. The increase in truck, van, and cars on the road has an impact on both traffic congestion and air quality.
- ▶ **Greater competition for curb space** on local streets. The increased competition can cause conflicts with on-street parking, bicycle lanes, transit lanes/bus stops, and recently expanded pedestrian and outdoor dining space.
- ▶ **Greater demand for warehouse and distribution sites** that require a large footprint, generate truck, van, and car traffic, but also bring jobs, and are increasingly locating in urban locations to meet demand.
- ▶ **Impacts to brick-and-mortar retail**, including retail closures, that may affect local land uses and employment. The extent to which brick-and-mortar retail may be repurposed to warehouse and distribution centers or other land uses remains uncertain.
- ▶ **Impacts on restaurants** with greater take-out and delivery and reduced or eliminated in-person dining.
- ▶ **Equity concerns**, including whether low-income residents and communities of color are disproportionately subject to the traffic, noise, and air pollution from distribution center operations, as well as whether the shift from traditional retail jobs to warehousing and deliveries has greater impacts on certain subsets of the population.

Architects and urban designers are reacting to the changing commerce landscape by designing building lobbies and entries and off-street loading areas for parcel delivery and storage, and by designating places for rooftops and building entrances to accommodate robots and drone deliveries.<sup>4</sup>

Of course, not every impact is negative: the e-commerce business model and economies of scale have resulted in lower prices for many consumer goods; and e-commerce enables home-bound residents and those without a car to purchase a breadth of goods, services, and foods they might not otherwise be able to access. Unfortunately, the lack of good data about online retail makes assessing the benefits and impacts difficult, which in turn complicates managing the growth of e-commerce to ensure greater equity and sustainability in the region.

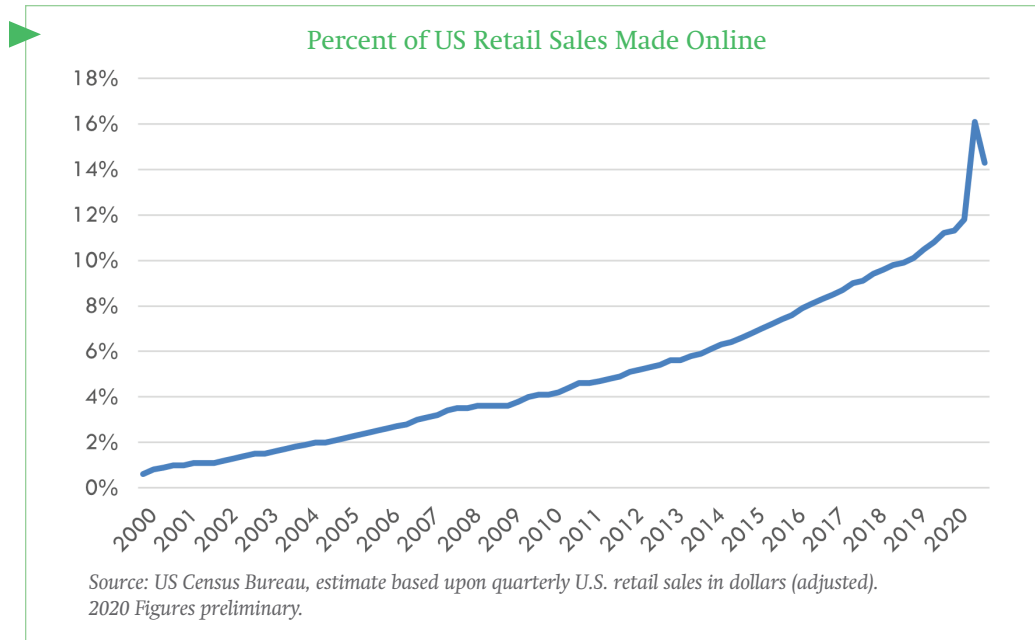
E-commerce is projected to grow rapidly over the next few years, and recent surveys of households during the COVID-19 pandemic show that many plan to shop online at higher rates in the future. Therefore, it is imperative that municipalities and state governments better understand and determine ways to manage impacts related to e-commerce.



## National Trends and Impacts

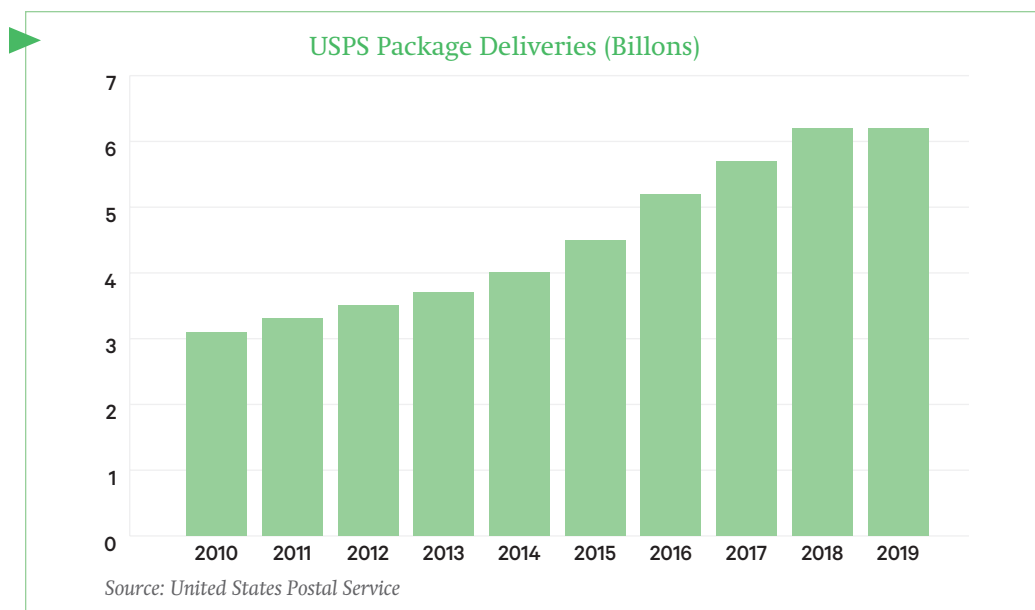
The Census Bureau estimates that as of the third quarter in 2020, e-commerce represented 14.3 percent of total retail sales (Figure 1). While most retail sales are still made in traditional in-person settings, e-commerce has more than doubled in the last five years. Primarily due to the COVID-19 pandemic, which forced many in the United States to stay at home, e-commerce sales increased 30 percent from December 2019 to July 2020, to levels originally forecasted to be reached by late 2022.<sup>6</sup> Prior to the pandemic, UBS, a global financial services company, projected the share of online retail to rise to 25 percent by 2026 nationwide.<sup>7</sup>

**Figure 1. E-commerce as a Percent of Total Retail Sales Nationwide**



The National Capital Region Transportation Planning Board estimates that on average, every person nationwide generates demand for roughly 60 tons of freight each year.<sup>8</sup> In the past ten years, the increase in e-commerce caused U.S. Postal Services (USPS) package deliveries to double (Figure 2). In 2019, Amazon delivered about 2.5 billion packages in the United States, an estimated 20 packages for every household. Due to the pandemic, analysts forecast this number will increase by at least 20 percent.<sup>9</sup>

**Figure 2. U.S. Post Office Package Deliveries, 2010-2019**





While the impacts of e-commerce are global, urbanized areas are experiencing the greatest effects. New York City alone receives an estimated 1.5 million deliveries per day, more than one for every six residents. While London's congestion pricing program has reduced single occupancy car use from 50 percent to 37 percent since 2003, the number of delivery vehicles has increased by 25 percent over the last ten years.<sup>10</sup>

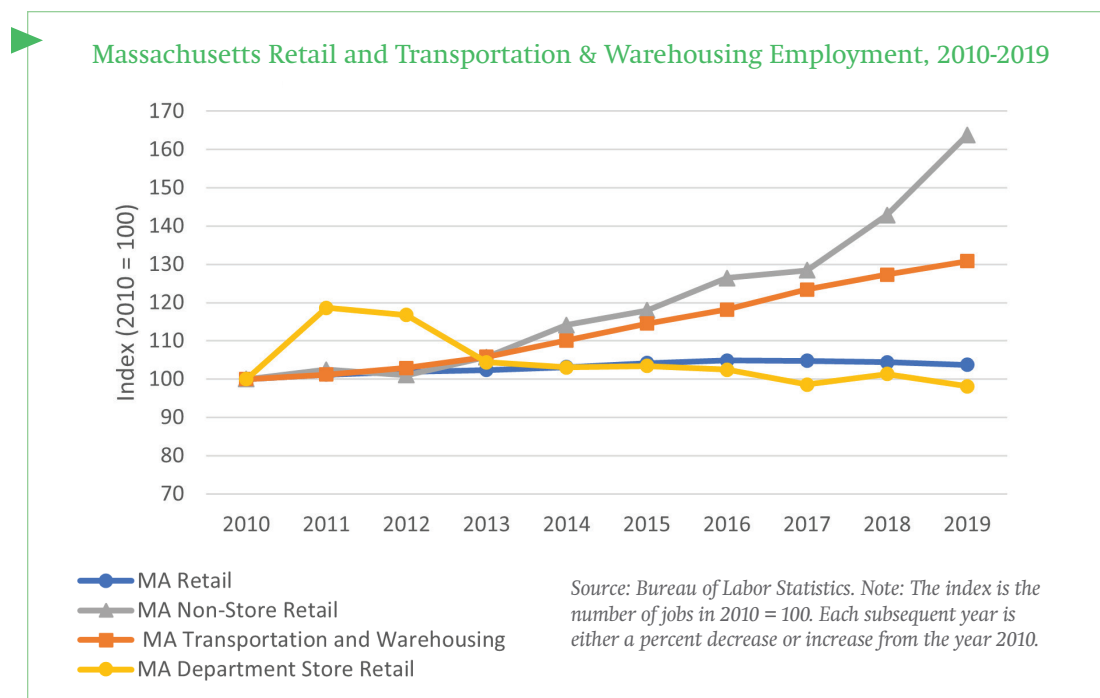
A 2017 survey of households in New York City and Paris revealed that couples with children were more likely to purchase non-food items and groceries online to avoid trips and save time. More than one-third of New York City households surveyed were willing to pay extra for same-day deliveries, nine out of ten had ordered restaurant food online, and 33 percent stated that they began to eat out less frequently once they started using online food ordering apps. The study also found a positive correlation between income and the amount of online shopping.<sup>11</sup> A study of millennials – who now make up the largest percent of the workforce nationwide – found that this age group received two to three packages per week, and similarly found a positive correlation between income and the number of packages received each week from online purchases.<sup>12</sup>

## Massachusetts E-Commerce Trends

While there are data showing the trends of e-commerce and online retail in the United States, there are almost no e-commerce data collected on the local or state level. The U.S. Census Bureau does not report retail sales by state, and the USPS and other package carriers do not report their data on deliveries at a localized level. Furthermore, while there are limited studies on parking and vehicular traffic impacts in select downtowns such as Manhattan, there have been no comprehensive studies on vehicular traffic generated by e-commerce. Select state and national employment data, however, help show e-commerce trends in the Commonwealth.

Employment sectors measured by the Bureau of Labor Statistics<sup>13</sup> that reflect changes from e-commerce include retail, department store retail, non-store retail (which includes online retailers), and transportation and warehousing. According to data from the Bureau of Labor Statistics, Massachusetts retail and department store employment levels have remained relatively steady since 2010 at 330,000 to 350,000 employees (overall retail) and 33,000 to 35,000 employees (department store retail). Non-store retail employment and transportation and warehousing, however, have seen steady increases in the last ten years. Between 2010 and 2019, the state's non-store retail workforce and transportation/warehousing workforce increased by approximately 64 percent (over 19,000 employees) and 31 percent (90,000 employees) respectively (Figure 3).

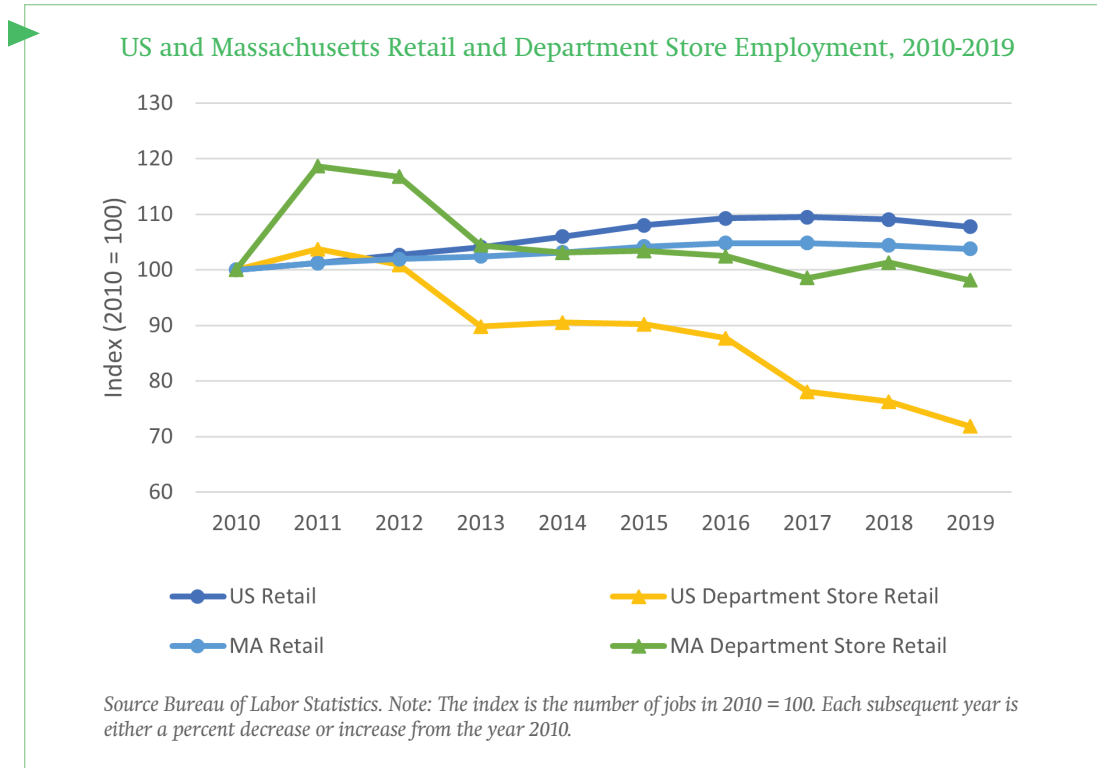
**Figure 3. Massachusetts Retail and Transportation & Warehousing Employment, 2010-2019**





By comparison, U.S. employment in both transportation/warehousing and non-store retail employment grew by 39 percent since 2010. Interestingly, both U.S. and Massachusetts retail employment grew slightly from 2010 to 2019, while department store employment in Massachusetts decreased slightly and national employment for department stores saw steady losses (Figure 4).

**Figure 4. Massachusetts and U.S. Department Store Employment, 2010-2019**



There are equity concerns with this changing retail and e-commerce landscape. The shift from brick-and-mortar to online retail has impacts on gender equity in employment. Currently, brick-and-mortar retail employment in the U.S. is 70 percent staffed by women, while warehousing and package delivery jobs are three-fourths staffed by men.<sup>14</sup> Furthermore, there are concerns about whether the growing number of e-commerce jobs, particularly delivery positions, are filled by independent contractors with limited or no benefits, such as retirement, paid leave, and health insurance. Finally, there may be geographic equity impacts, as the siting of e-commerce warehouse and distribution centers may or may not be accessible by public transportation.<sup>15</sup>



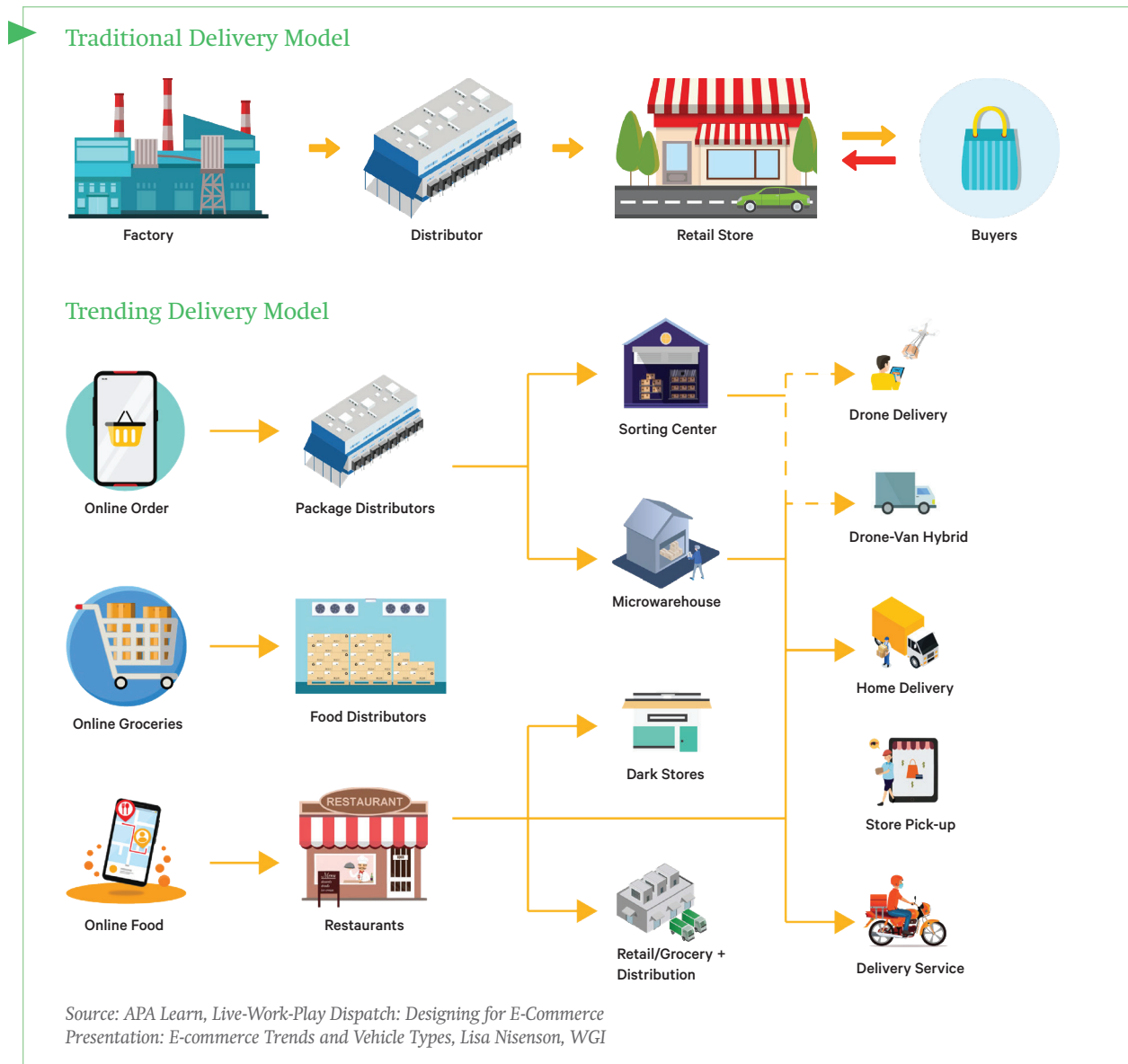
## ► Chapter 2: Transportation and E-Commerce





The transportation impacts of e-commerce are primarily due to what is called “supply chain logistics.” The supply chain consists of the material and informational interchanges in the logistical process stretching from acquisition of raw materials to delivery of finished products to the end user. Distributors, stores, and buyers are some of the links in the supply chain. For e-commerce, supply chain logistics primarily refers to the processes involved in storing and shipping inventory for an online store or marketplace, including inventory management and the picking, packing, and shipping of online orders (Figure 5).<sup>1</sup>

Figure 5. Supply Chain Logistics



Centered on a model of same-day delivery and a local approach to distribution, e-commerce has reshaped how supply chains work. In the past, goods moved first from the factory to the distributor, and then to the store where consumers made purchases. Due to e-commerce, the supply chain has evolved into an expanded model that moves goods across a complex network of interconnected facilities. This complex network includes brick-and-mortar stores, multiple warehouse and distribution centers, customer click-and-collect points, and package lockers.<sup>2</sup>

As a result, e-commerce impacts transportation networks regionally with increased vehicle traffic on roadways and streets, and locally with multiple daily deliveries at workplaces and residences where delivery vehicles compete for use of the curb.



New approaches are being designed to manage and facilitate the reverse logistics of returning items ordered online. For example, in a partnership with Amazon, Kohl's accepts returns of Amazon orders. Kohl's will package and send returned items to Amazon on behalf of customers at no cost. Walmart offers a Mobile Express Returns service which allows Walmart products purchased online to be returned in Walmart's physical stores at no additional cost. By these stores leveraging their physical locations, returns are more convenient for the customer and the retailer benefits from a centralized pick-up point.<sup>9</sup> However, a shopper making a trip to the retail center to return an online purchase results in additional Vehicle Miles Travelled (VMT) and associated traffic congestion and Greenhouse Gas (GHG) emissions. This again illustrates the difficulty in calculating whether e-commerce has a net positive or negative impact on regional traffic.

A comprehensive study of the online shopping habits of Manhattan residents found that more than a third were willing to pay extra for same-day delivery. Meeting this immediate demand entails the use of more delivery vehicles. The study also found a positive correlation between income and the amount of online shopping. Similar research on shoppers in Texas found that wealthier households (those making more than \$75,000 annually) had an average of three package deliveries per week, compared to two packages per week for households with an annual income of less than \$25,000. This research also found that the more in-store shopping trips a household conducts per week, the more online packages the household receives each week; it found, too, that higher-income households were more likely to pay for expedited or same-day deliveries. These findings all suggest that e-commerce at this time may not be directly replacing in-person shopping trips, but rather providing another way for those with more disposable income to shop more.<sup>11</sup>

An additional number of households are also embracing the "click and collect" models offered by retailers such as Target, Walmart, and grocery stores. Orders are placed online and picked up by the purchaser curbside at the store or in the store. This does not reduce VMT.<sup>12</sup> It is worth noting that the customer in-store or curbside pickup model is more cost effective for retailers, as they do not handle the last-mile delivery process.<sup>13</sup>

Some researchers have begun to estimate the impacts of e-commerce on both VMT and vehicle emissions, both now and in the future. As of 2018, approximately five percent of e-commerce was same-day delivery. Same-day delivery is forecast to increase to 15 percent within five years. Analysis by UC Davis found that offers for same-day deliveries are estimated to be among the most important determinants in increasing the number of vehicle miles traveled per package delivery. Their research estimates that an expedited one-hour delivery requires an average of 1.3 miles per package delivery, compared to less than 0.2 miles for next-day delivery.<sup>15</sup> A study by the World Economic Forum projected the growth in deliveries using traffic and other data from several cities across the globe. The study concluded that without policy intervention, the number of delivery vehicles will increase 36 percent from 2019 to 2030, along with a 32 percent increase in carbon-dioxide emissions. The study also found that impacts of growth in last-mile deliveries alone could increase average commutes by 21 minutes by 2030. The report recommended various interventions to reduce traffic congestion and associated carbon-dioxide emissions, including mandated electric vehicle fleet adoption, use of drones for deliveries, increased double-parking enforcement, installation of package lockers, and creating more delivery parking zones. Implementing these interventions will require substantive policy changes, monetary investments, along with changes in customer shopping habits.<sup>16</sup>

Both the public and private sectors have begun to incentivize more efficient deliveries to reduce traffic and associated GHG impacts. A surcharge on same day deliveries could monetize the traffic impacts created by same-day deliveries and encourage users to select less-expedited delivery options. Amazon at times incentivizes customers (through discounts or reduced fees) to combine purchases into a single delivery. If this option was applied on a more widespread basis, and not just by Amazon, the number of deliveries and packing materials could be reduced. Since the pandemic in early 2020, UPS has added "peak" surcharges for large, high-volume companies such as Amazon, Target, and Best Buy in an effort to manage increasing numbers of shipments. Typically, these extra fees are imposed during the holiday shopping season. The surcharge could impact the volume and sizes of packages these companies ship with UPS.<sup>17</sup>



## Traffic and Air Quality Impacts

The increased use of e-commerce raises two traffic-related questions: how much added traffic is due to e-commerce deliveries (trucks, vans, and cars), and do e-commerce deliveries replace vehicle trips that used to be made to traditional retail stores.

Since 2010, total Vehicle Miles Travelled (VMT) nationwide has grown nine percent overall but increased 13 percent in urban areas, while VMT in Massachusetts has grown 19 percent statewide and 23 percent in urban areas between 2010 and 2019.<sup>3</sup> While some of this growth can be attributed to recovery from the Great Recession, there is also evidence that e-commerce and the widespread adoption of ride-hailing services are contributing to the growth in VMT and associated traffic congestion and vehicle emissions. In 2018, New York City received 1.5 million deliveries each day, a number that has tripled over the last eight years. As of 2018, at least 15 percent of New York City households received at least one package daily. The number of trucks on tolled bridges into New York City rose nine percent from 2014 to 2018.<sup>4</sup> However, this growth in truck traffic only tells part of the story, as many deliveries are now made by vans and cars. Local data on the number of deliveries and their traffic impacts remains difficult to collect.

There has been almost no research on the extent to which e-commerce deliveries may be replacing vehicle trips for shopping. In theory, a consolidated delivery system of e-commerce orders compared to each individual household driving for their shopping trips should have lowered overall VMT.<sup>5</sup>

### ► The reality is more complex, indicating that online shopping may not necessarily be directly replacing in-person shopping trips:

- An online order for several items from a single site, such as Amazon or Target, can be shipped from separate warehouse or distribution centers. This can result in multiple deliveries from a single online order.
- Households are now offered more options for same-day or next-day shipping, which requires faster deliveries. This can require more vehicles and less opportunity to optimize distribution and routing.<sup>6</sup>
- Thirty percent of online orders are returned.<sup>7</sup> This has created the need for what the industry calls “reverse logistics” – the moving of returned orders from the buyer, preferably to a destination that allows for some value recapture. Additionally, due to theft or deliveries to the wrong location, the rate of failed first delivery attempts can be as high as 15 percent in some cities.<sup>8</sup> Reverse logistics and multiple delivery attempts increases the number of vehicular trips.
- Surveys of shoppers indicate that online deliveries are not wholly replacing in-person shopping trips. Rather, shoppers continue to shop in person on a regular basis *and also* go online primarily to purchase select items they have not bought during their in-person shopping trips.

In some cases, e-commerce may entail both an in-person store visit and a delivery. Some consumers visit a brick-and-mortar store to look at products before comparing prices and purchasing online for delivery. This involves both a car and a delivery trip. Another question is what consumers do with the time saved by making purchases online, and whether they are using any new “free time” for other trips.



A bill was proposed in December 2020 in New York City that would require residents to pay a \$3.00 surcharge on packages they order online, with the exception of medicine and food. The online shopping fee would be used to fund the operating costs of New York's public transit system and is intended to support small businesses and protect the environment.<sup>18</sup> Chicago also proposed in late 2020 a \$1.25 to \$2.50 surcharge on deliveries, with the exception of medicine and restaurants. The purpose of the tax is to help raise revenues for the city.<sup>19</sup> To date, these proposals have not been adopted, in part due to equity concerns about the tax's impacts on lower-income households. While these surcharges could help monetize the traffic impacts created by e-commerce, research suggests they must be done in conjunction with other interventions, such as package lockers and improved delivery parking regulations/enforcement to have the greatest impacts on reducing traffic and air quality impacts.



Photo: FedEx trucks in downtown Boston; Shutterstock

## Deliveries and Curb Impacts

The growth in e-commerce also creates conflicts on local streets where delivery vehicles must compete with other uses of the curb, such as bicycle lanes, on-street parking, transit stops and bus lanes, as well as passenger pickups and drop offs for taxis and transportation network companies (TNCs). Parklets and extended outdoor dining areas, which have become more widespread during the COVID-19 pandemic, are also occupying curb space previously dedicated to other uses. Delivery vehicles double parked (particularly in bike and bus lanes) have become a frequent hazard in urban areas. These curb space conflicts are not limited to central business districts, but also are in suburban neighborhoods with a greater prevalence of on-street residential parking.



The first step in tackling the problem with the curb is to understand the delivery-zone supply and demand in downtowns and other dense areas. Since the pandemic, data is suggesting that, nationwide, commercial vehicles comprise nearly 30 percent of parking activity in cities and that more than 50 percent of parking violations in cities are committed by commercial operators.<sup>20</sup> Los Angeles, Seattle, San Francisco, New York, and Washington, D.C. have studied the number of deliveries in key locations and developed pilot programs to better manage both the supply of curbside delivery spaces and enforcement.<sup>21, 22</sup>

Seattle, Toronto, and San Francisco have developed comprehensive framework and policy guides to inform future decision-making about using curb space for a variety of uses. Seattle's [Flex Zone/Curb Use Priorities](#) defines the curb lane as a "flex zone," and allocates ranked curb use priorities (mobility, access for people, access for commerce, activation, greening, and storage) according to street types. Toronto's Curb Management Strategy and San Francisco's Curb Management Strategy have comprehensive policy approaches and implementation plans that manage curbside space while supporting mobility and access for people and goods. For example, the GoDCgo program in Washington, D.C. allows commercial vehicles to park in loading zones during designated times via a mobile service or smartphone application. DC has found that companies are willing to pay for the reliability, time savings, and reduction in parking violations that result from this program.<sup>23</sup>

In 2018, the City of Boston began an effort to identify curb lane parking areas that were over- and under-utilized. The city studied its parking violations to determine where delivery vehicles were double-parking in travel lanes, bus lanes, and bicycle lanes and where vehicles were overstaying in loading zones. Boston found substantial variation in curb space utilization within only a few hundred feet throughout the day (7 a.m. – 7 p.m.). As seen in Figure 6, commercial parking/delivery spaces in purple had passenger vehicle violations, indicating they are likely underutilized by commercial vehicles. Red spaces show double-parking violations of commercial vehicles (suggesting too few spaces dedicated for deliveries and commercial vehicles), and black show commercial vehicles that were parked beyond the 30-minute limit for deliveries (indicating spaces are overutilized). In the Back Bay, streets that are primarily residential and closer to the Charles River show higher concentrations of commercial vehicles double parking, suggesting there is not enough parking designated for delivery vehicles. The same applies for Commercial Street in the North End. In comparison, the Financial District has several zones for deliveries that are used by personal vehicles, which may indicate an oversupply of delivery parking spaces.<sup>24</sup>

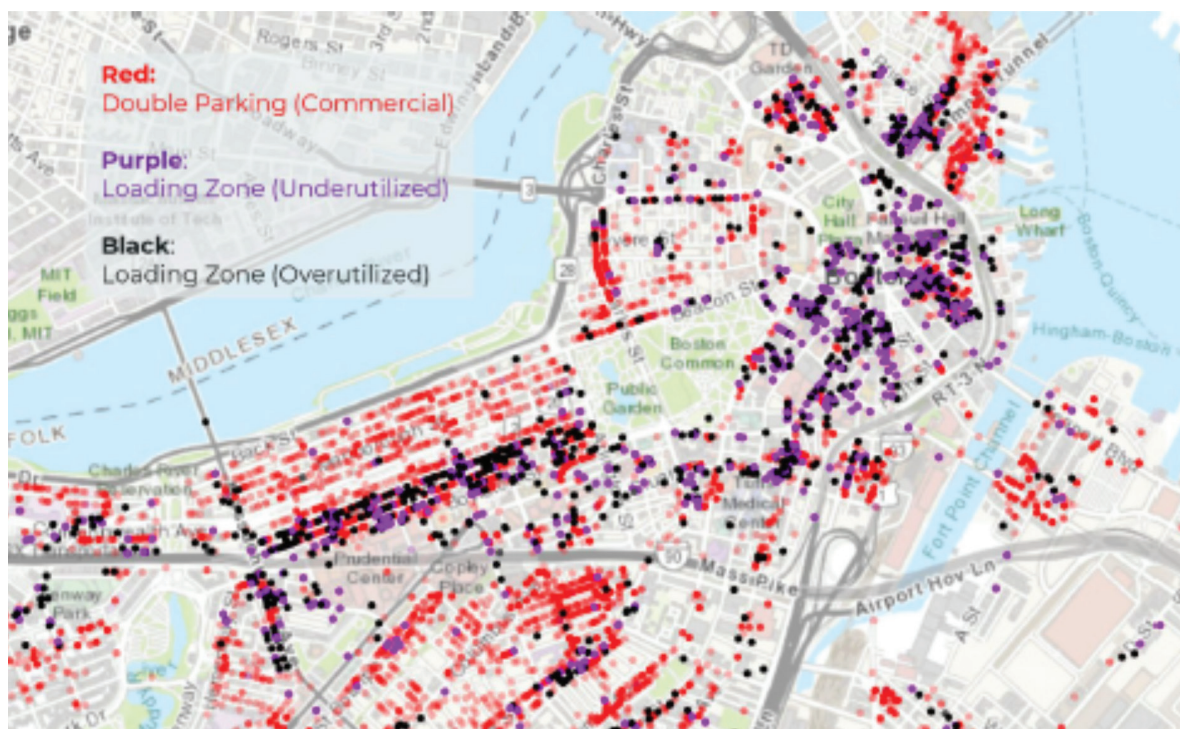


Photo (right): UPS truck in Brookline Village in bike/parking lane; MAPC



On the basis of this study, Boston is developing pilot programs to manage deliveries through more dynamic curbside-parking pricing. The City also plans to advance a pilot program for e-cargo bike deliveries.

Figure 6. City of Boston Commercial Parking Violations



Source: City of Boston

The Boston Metropolitan Area Planning Organization (MPO) is undertaking research on the future of the curb. It recommends communities in the Boston area consider pilot programs to better manage curbside use for parking and deliveries.<sup>25</sup> Potential strategies include making street parking along entire city blocks for deliveries only, which has reduced double parking and dwell times for delivery vehicles in Washington, DC.



## Package Lockers

Package lockers (sometimes called parcel lockers) are self-service secure containers where customers can pick up packages at their convenience. After carriers make deliveries, customers can then retrieve their packages, usually with a personalized access code sent by text or e-mail. Package lockers are typically sited at centralized locations such as apartment buildings, office buildings, grocery stores, and convenience stores. There are various locker services such as the USPS, Gopost, UPS Access Point, DHL Lockers, FedEx Ship & Get, and Amazon Hub.

Delivering to a package locker removes the need for multiple delivery attempts and reduces vehicle dwell times. Enabling drivers to make one delivery trip quickly and efficiently to a centralized location can reduce congestion and emissions. A study by Urban Freight Lab found that package lockers at an apartment complex in Seattle reduced the time UPS trucks were parked in front of the complex by 78 percent.<sup>26</sup>



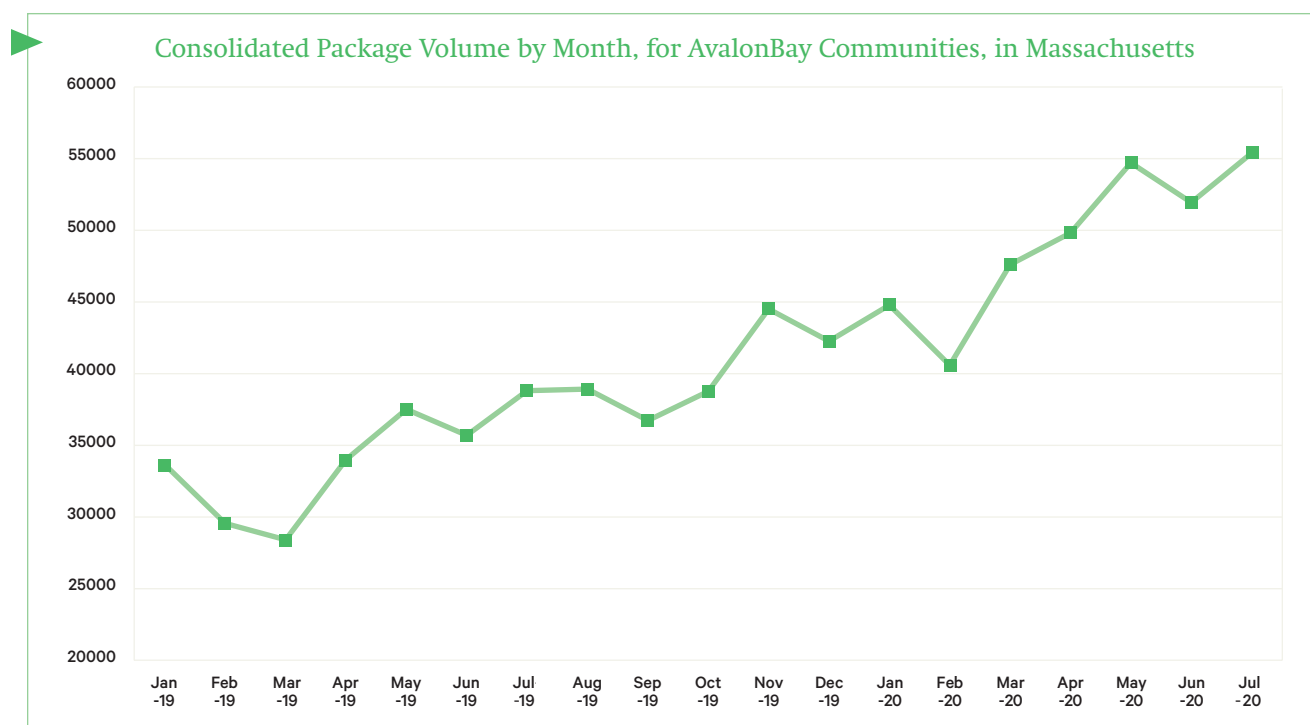
Photo: UPS locker at Stop & Shop in Dedham; MAPC

Not surprisingly, an analysis of package deliveries to residential buildings mirrors the tremendous increase in the e-commerce sector. For example, AvalonBay Communities, a real estate investment trust that has an ownership interest in about 80,000 apartments nationwide, reported in 2017 that the average apartment community in the company's portfolio received approximately 1,000 packages a month, up from 650 in the prior year. Over the past several years, the company reported having a 30 percent annual increase in the volume of packages it receives.<sup>27</sup>

In Massachusetts, AvalonBay has an ownership interest in about 10,530 apartment units in 40 buildings.<sup>28</sup> These apartment buildings are in 25 municipalities throughout Eastern Massachusetts.<sup>29</sup> Recently, AvalonBay contracted with Amazon to install package lockers at their apartment buildings, which allows data on package deliveries to be collected. Even though the parcel locker system was installed by Amazon, all carriers (e.g., UPS, FedEx, and small regional carriers) can be assigned a carrier code that allows them to deliver to the lockers. The figure below depicts the consolidated data on deliveries across the 10,530 apartment units in the 40 buildings in Massachusetts. Over a 19-month period from January 2019 to July 2020, package deliveries increased by 65 percent. As of July 2020, the average number of monthly package deliveries per apartment unit is 5.3.



Figure 7. Consolidated Deliveries, AvalonBay Communities in Massachusetts



## Notes:

- Deliveries include both manually delivered packages and packages delivered to package lockers.
- AvalonBay notes this number is understated as packages are sometimes delivered to the apartment door or left by carriers around the community.
- Package returns are not managed.
- While AvalonBay does not share occupancy data, they utilize an industry benchmark of 95 percent.



Photo (left): Amazon Prime delivery in Revere; Shutterstock



Photo (right): UPS Driver; MAPC



## Traffic from Warehouses and Distribution Centers

Warehouses and distribution centers generate three distinct types of trips and associated traffic patterns: 'inbound' traffic from wholesalers, retailers, or other distribution centers (primarily via tractor-trailers); 'inbound' employee traffic via personal vehicles; and 'outbound' delivery traffic via trucks, vans, or smaller vehicles. Each trip, of course, entails a corresponding leg where the vehicle leaves or returns to the facility.

While the traffic generated by e-commerce warehouse and distribution centers vary by size and type of product being delivered, most centers have 24-hour operations.<sup>30</sup> The typical cycle of activity consists of the receipt of bulk deliveries from distribution centers late at night from tractor-trailers. The items are sorted and prepped, then loaded into vans overnight for delivery. Delivery vans depart from distribution centers in waves starting in the late morning, make deliveries during the day, and then return in the evening. Employees driving to and from the site are also part of the traffic generated.<sup>31</sup> A more detailed description of the operations of a distribution center can be found in Chapter 3.

The total volume of traffic to and from warehouse and distribution centers in Massachusetts is currently unknown, as is the extent to which vehicular trips generated by an e-commerce distribution center are replacing other trips that might have been made by shoppers to traditional stores.

Understanding the traffic volume generated by these facilities is further complicated by the number of e-commerce distribution centers repurposed from older warehouses or large buildings. The Amazon distribution center in Dedham, for example, was previously a warehouse used by a Macy's department store and Restoration Hardware. The Amazon facility in Revere occupies an old Necco candy factory. In each location, some of the Amazon activity replaces traffic from previous activities at these sites.



Photo (left): Amazon van entering Milford delivery station on Industrial Road; Neal McNamara, Northborough Patch

Photo (right): Amazon Prime vans departing Milford delivery station on Industrial Road; Central Transportation Planning Staff



## Emerging Delivery Models

Emerging delivery models for e-commerce include new technologies such as air and ground drones, autonomous vehicles, as well as using existing technology such as e-bikes in new applications. Several municipalities and the private sector have developed pilots of emerging delivery models to determine their effectiveness. Package lockers (described earlier) started as pilots and are now becoming more widespread in deployment and use. The pilots described below are still early in their development.

### ► Cargo Bike Deliveries

Whether pedal-operated or electric, cargo bikes can serve as a nimble, carbon-neutral last-mile delivery solution which could reduce delivery times, traffic, emissions, as well as competition for curb space. In Miami, DHL is piloting e-assist cargo bikes, New York City launched an initiative to encourage freight companies to use cargo bikes, and in Seattle, UPS recently conducted a one month e-cargo bike pilot.<sup>32,33,34</sup>

London implemented a successful pilot in which delivery vans drove to strategically placed meet-up points where the goods were distributed to a team of bicyclists and pedestrians. In turn, the bicyclists and pedestrians delivered the packages while the delivery vans went back to the warehouse, reloaded, and drove to another meet-up point. It was determined that this delivery method allowed for four times as many packages to be delivered during one shift. Following this pilot, the City is considering next steps.<sup>35</sup>

In the summer of 2020, Boston released a Request for Information (RFI) for Electric Cargo Bikes as a Delivery Solution.<sup>36</sup> With a better understanding of existing initiatives in the Boston metro area and elsewhere, the City plans to launch an e-cargo bike delivery pilot program which will identify the potential regulatory, administrative, and operational challenges to e-cargo bike delivery and establish strategies to address those challenges.



Photo: UPS e-assist bike in Seattle, Washington; UPS



## ► Drones – Air and Ground

Numerous companies are exploring the expansion of aerial and ground drones for deliveries of medical, package, and food deliveries. Walmart and FedEx plan to collaborate on a pilot to send on-demand deliveries of household, and grocery items in North Carolina. Amazon, UPS, and Walgreens all have plans to conduct air drone pilot programs.<sup>37, 38</sup> CVS and Nuro, a robotics company, have partnered to deliver prescriptions in Houston with ground drones. CVS also has a partnership with UPS to deliver medical supplies via ground drones to retirement communities in Florida.<sup>39</sup> Starship Technologies, a delivery robotics company, has new grocery and meal delivery programs at university campuses, including Arizona State University, James Madison University in Virginia, and Georgia Southern University; and in communities such as Mountain View and Modesto in California.<sup>40</sup>

## ► Autonomous Vehicle Deliveries

Pilots are also underway using autonomous vehicles. In Phoenix, UPS will be undertaking a pilot in which autonomous vehicles will pick up packages dropped off at UPS stores and bring them to a UPS logistics facility.<sup>41</sup> In Bentonville, Arkansas, Walmart and autonomous vehicle startup Gatik have plans for delivering customer orders from a dark store. In Scottsdale, Walmart and GM Cruise have plans to test driverless deliveries using electric vehicles.<sup>42</sup> Toyota has developed an autonomous delivery service concept called e-Palette, which is a modular store on wheels that could deliver food and packages.<sup>43</sup>

Although widespread deployment of air and ground drones and autonomous vehicles will take several years to become mainstream, these types of services could dramatically impact personal trips, especially since 45 percent of household trips are for groceries and errands.<sup>44</sup>



## ► Chapter 3: Land Use and E-Commerce





The dramatic increase of e-commerce is having major effects on land use. The pressure to maintain dependable and quicker delivery times has resulted in e-commerce companies adding smaller warehouse and distribution centers closer to consumers as part of their regional networks, a trend which shows no signs of changing.<sup>1</sup>

Consumers are increasingly expecting to receive the goods they purchase promptly and retailers such as Amazon, Walmart, and Target are competing to reduce order-fulfillment times by offering next day and even same-day deliveries. Aimed to compete with Amazon Prime, which has an estimated membership of 112 million,<sup>2</sup> Walmart launched its own membership service for free deliveries, Walmart Plus, in September 2020. As transportation is the greatest cost as part of e-commerce logistics, the siting of smaller warehouse and distribution centers closer to consumers saves on both delivery times and expenses. Subsequently, the placement of warehouse and distribution centers in urban areas is an integral component of the “last mile” delivery process.

The competition to add warehouse and distribution centers has resulted in a high demand for industrial real estate, particularly in urban areas. According to real estate firm Cushman & Wakefield, the demand for industrial space in North America exceeded supply in 2019 for the first time since before the Great Recession.<sup>3</sup> Industry publications report that warehouse rents in the Boston-area market have increased 42 percent over the last two years to an average of just over \$12.00 per square foot.<sup>4</sup> According to a report by the Industrial Asset Management Council and the Society of Industrial and Office Realtors, “The rise of e-commerce is a primary reason for the growing demand for new warehouse space, strategically located within closer proximity to consumers.”<sup>5</sup>

The push to site warehouse and distribution centers closer to consumers is a significant industry change that impacts both land use and transportation. The increased traffic, emissions, and noise caused by delivery vehicles accessing the warehouse and distribution centers has raised concerns about potential negative health impacts to area residents.<sup>6</sup> As the distribution centers are located within urbanized areas to meet demand, these centers may be situated in communities of color and lower-income neighborhoods and could create disproportionate impacts.

At the same time, there is significant demand to site large e-commerce warehouse and distribution centers outside of urban areas. Primarily located in industrially-zoned areas, these facilities require both substantial amounts of land and easy access to the regional highway and rail network. It is worth noting that these facilities are frequently located where access by public transit is limited.<sup>7</sup>

While the pandemic has had considerable and immediate negative impacts on businesses and real estate, industrial properties are thriving primarily due to increased e-commerce activity. In 2020, Amazon opened more than 175 new fulfillment centers, distribution centers, sortation centers, delivery stations, and regional air hubs in the U.S. and Canada, a trend which shows no signs of slowing.<sup>8</sup>

As of December 2020, Amazon had 762 active facilities across the country and another 240 in the pipeline that would bring its footprint to over 352 million square feet.<sup>9</sup>

As e-commerce warehouse and distribution facilities are designed to prioritize goods movement and/or short-term goods storage, they require more loading docks, more space for parking, and higher ceiling heights than do traditional warehouses.<sup>10</sup>



## Amazon Facilities in Massachusetts

Amazon is one of the largest industrial tenants in the greater Boston industrial market and has plans for continued expansion. As of February 2021, 20 Amazon facilities were in operation and 14 facilities were in the pipeline. While the oldest of these facilities became operational in late 2014, ten became operational in 2020 alone. As shown in Table 1 and Figure 8, existing square footage is approximately 4.79 million square feet and planned development is an estimated 7.3 million square feet. If all planned facilities become operational, the total square footage could exceed 12 million square feet.<sup>11</sup>

### Definition of Amazon Facilities

- **Amazon Pantry and Fresh Distribution Center.** Facilities which service dry grocery merchandise (Pantry) or perishables or frozen merchandise (Fresh).
- **Amazon Prime Now.** Facilities that stock a limited line of products that are in high demand and can be delivered within 1-2 hours of order placement.
- **Amazon Whole Foods Retail Distribution Center.** A facility which services Whole Foods grocery products.
- **Delivery Station.** Facilities where packages are sorted and then dispatched directly to the customer. These facilities represent the last leg of the delivery network.
- **Distribution Center (or Fulfillment Center).** A building specifically designed to receive, store and redistribute goods and designed for rapid turnaround for e-commerce and similar “just in time” product deliveries.
- **Sortation Center.** Facilities generally used to sort packages for a geographical region whereby the packages have originated from one or more fulfillment centers within the Amazon network. Packages are usually shipped to delivery stations.

Modified from [https://www.mwpyl.com/html/amazon\\_com.html](https://www.mwpyl.com/html/amazon_com.html)



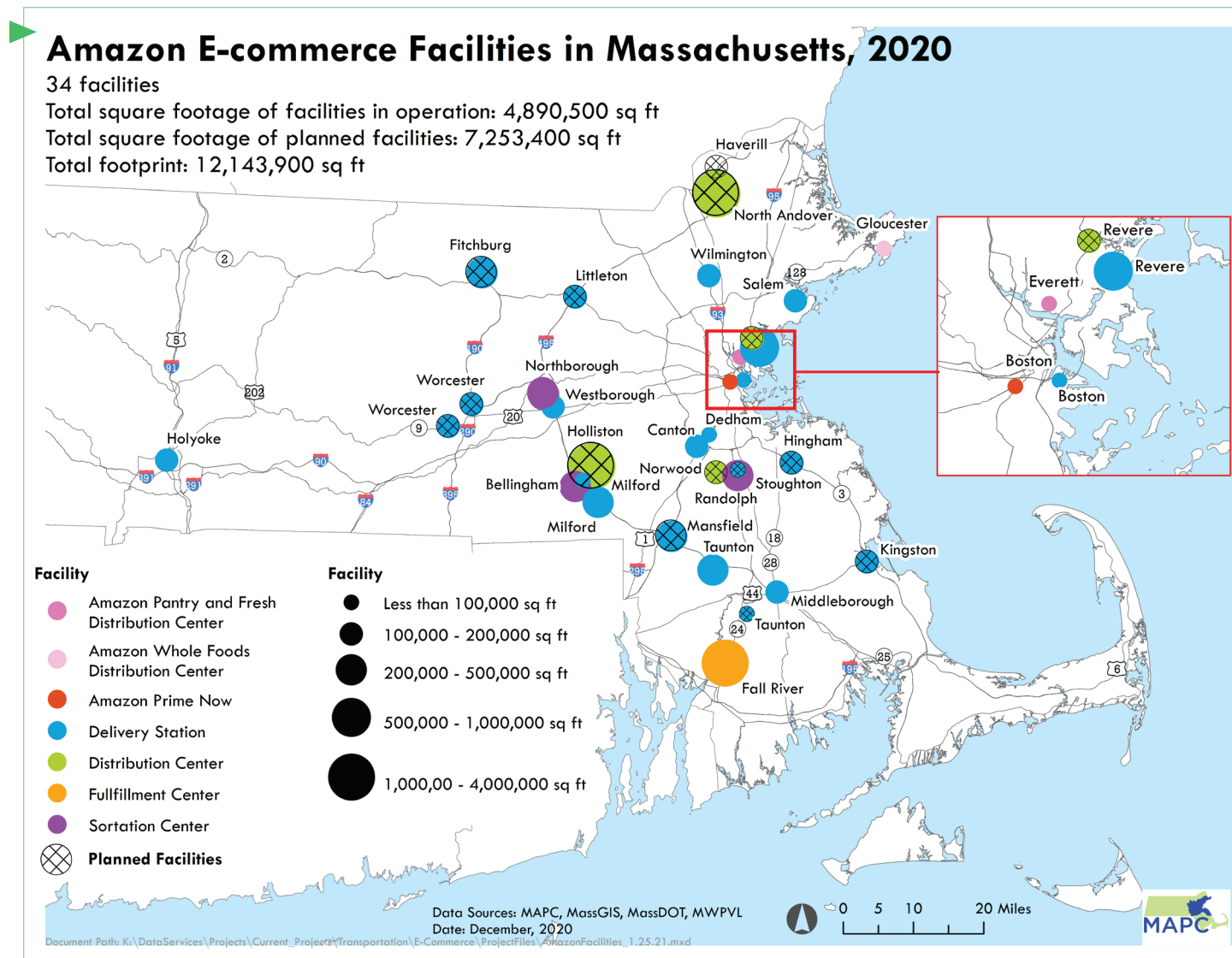
Table 1. Operational and Planned Amazon Facilities

Facility Type	Address	Municipality	Square Feet
<b>In Operation</b>			
Fullfillment Center	1180 Innovation Way	Fall River	1,015,700
Delivery Station	135 American Legion Highway	Revere	830,000
Delivery Station	800 John Quincy Adams Road	Taunton	350,300
Sortation Center	1000 Technology Center Drive	Stoughton	332,700
Sortation Center	1 National Street	Milford	332,000
Sortation Center	350 Bartlett Street	Northborough	300,000
Sortation Center	330 Bartlett Street	Northborough	300,000
Delivery Station	351 Maple Street	Bellingham	300,000
Delivery Station	732-750 Everett Street	Norwood	162,700
Delivery Station	4400 Computer Drive	Westborough	156,500
Delivery Station	20 Colonial Road	Salem	147,000
Delivery Station	161 Lower Westfield Road	Holyoke	145,000
Delivery Station	30 Commerce Boulevard	Middleborough	132,300
Delivery Station	110 Fordham Road	Wilmington	100,200
Delivery Station	8 Industrial Road	Milford	81,900
Amazon Prime Now	30 Northampton Street	Boston	72,300
Delivery Station	500 Sprague Street	Dedham	60,500
Amazon Pantry and Fresh Distribution Center	201 Beacham Street	Everett	51,000
Amazon Whole Foods Retail Distribution Center	15 Parker Street	Gloucester	20,400
Delivery Station	415 Summer Street	Boston	n/a
			<b>4,890,500</b>
<b>Planned</b>			
Distribution Center	1600 Osgood Street	North Andover	3,800,000
Distribution Center	555 Hopping Brook Road	Holliston and Medway	1,500,000
Delivery Station	139 Intervale Road	Fitchburg	350,000
Delivery Station	560 West Street	Mansfield	350,000
Delivery Station	125 Goddard Memorial Drive	Worcester	177,000
Delivery Station	100 Industrial Park Road	Hingham	149,000
Delivery Station	39 Presitge Way	Kingston	145,000
Delivery Station	151 Taylor Street	Littleton	143,000
Delivery Station	25 Computer Drive	Haverhill	142,000
Delivery Station	7 Neponset Street	Worcester	121,000
Distribution Center	300 Dan Road	Canton	106,698
Distribution Center	565 Squire Road	Revere	102,000
Delivery Station	100 Mazzeo Drive	Randolph	93,200
Delivery Station	350 Revolutionary Drive	Taunton	74,500
			<b>7,253,400</b>
		<b>Total</b>	<b>12,143,900</b>



As illustrated in Figure 8, current last-mile delivery stations are in Bellingham, Dedham, Everett, Holyoke, Milford, and Revere. Amazon is proposing to expand its network of last-mile delivery stations in Massachusetts with facilities in Boston, Hingham, Kingston, Mansfield, Middleborough, Salem, Taunton, Wilmington, and Worcester.<sup>12</sup> Both existing and planned facilities are heavily concentrated in the southeastern part of the state. This is attributed to the area having proximate access to the regional highway network and a building inventory that meets building specification demands of e-commerce providers (e.g., high ceiling heights and multiple loading docks).<sup>13</sup>

Figure 8. Amazon E-Commerce Facilities in Massachusetts, 2020



## Warehousing and Distribution Centers in Eastern Massachusetts

According to Colliers International, the rest of the Greater Boston industrial market (not including Amazon) has slightly under two million square feet in the construction and renovation pipeline.

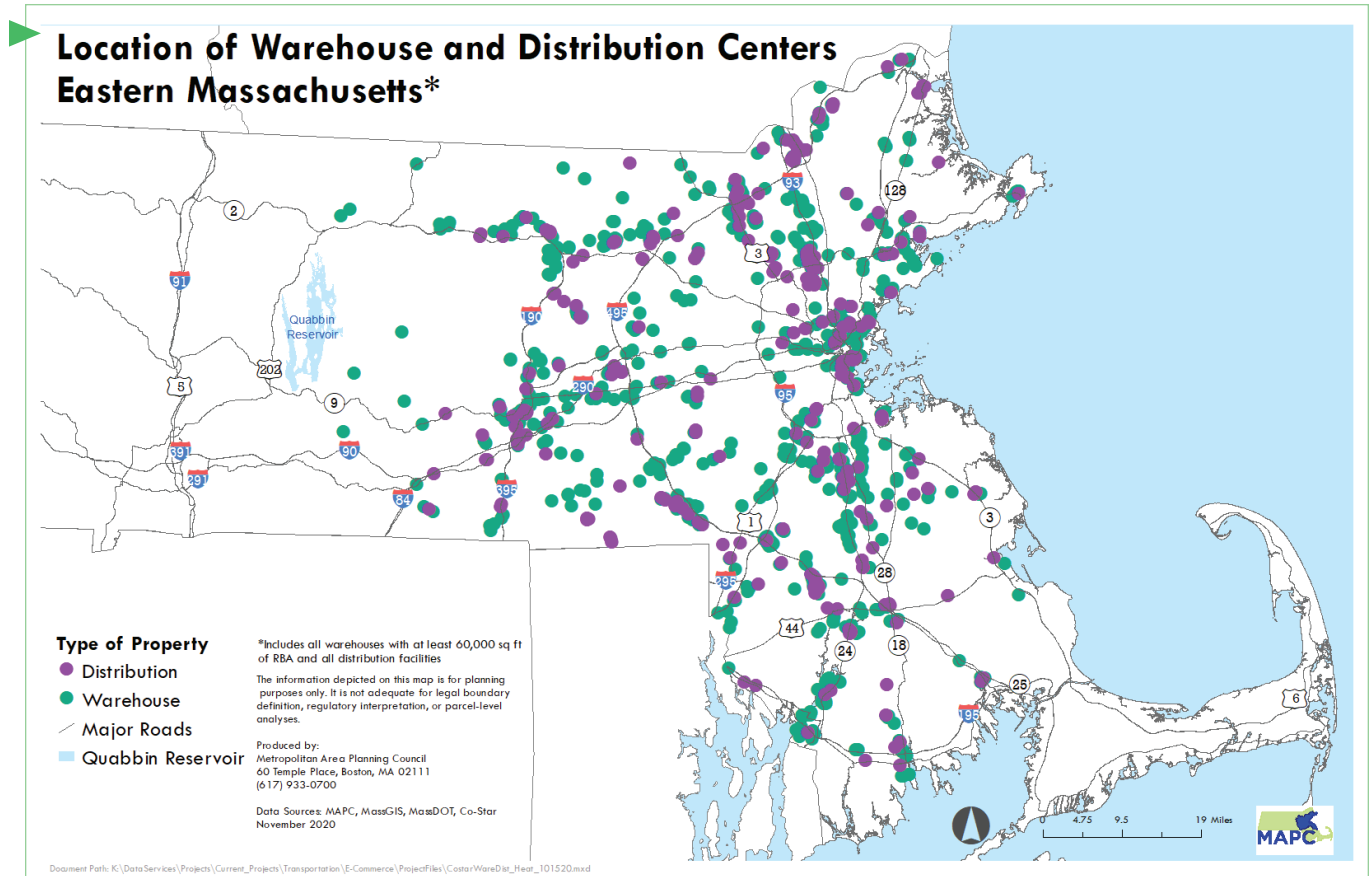
Colliers has identified the growing importance of two areas in the Commonwealth for the siting of warehousing and distribution: the Route 2 corridor, which provides access to Boston, Worcester, and New Hampshire; and the area south of I-495, which is proximate to the I-95/I-495 interchange.<sup>14</sup> Colliers has also determined that interest in industrial operations has also reached beyond the Boston market.



Consistent with national trends, Greater Boston's industrial market is in demand and growing.<sup>15</sup> Industrial vacancy rates reached a record low of 8.2 percent in Greater Boston at the end of 2020.<sup>16, 17</sup> According to Colliers, e-commerce is the "major demand driver" in the Greater Boston market.<sup>18</sup>

MAPC used CoStar, a commercial vendor that provides information, analytics, and marketing services to the commercial and property industry, to develop an inventory of warehouse and distribution centers. As shown in Figure 9, warehouse and distribution centers are distributed throughout Eastern Massachusetts.<sup>19</sup> The facility types coningle and are generally concentrated along the regional highway network. There are nodal concentrations of both facility types at the major highway interchange areas of I-90/I-190/I-290 (Worcester area), I-90/I-93/I-95 (Boston area), I-495/Route 3 (Lowell area), and I-95 and I-295/I-495 (southwest of Boston).

Figure 9. Location of Warehouse and Distribution Centers, Eastern Massachusetts

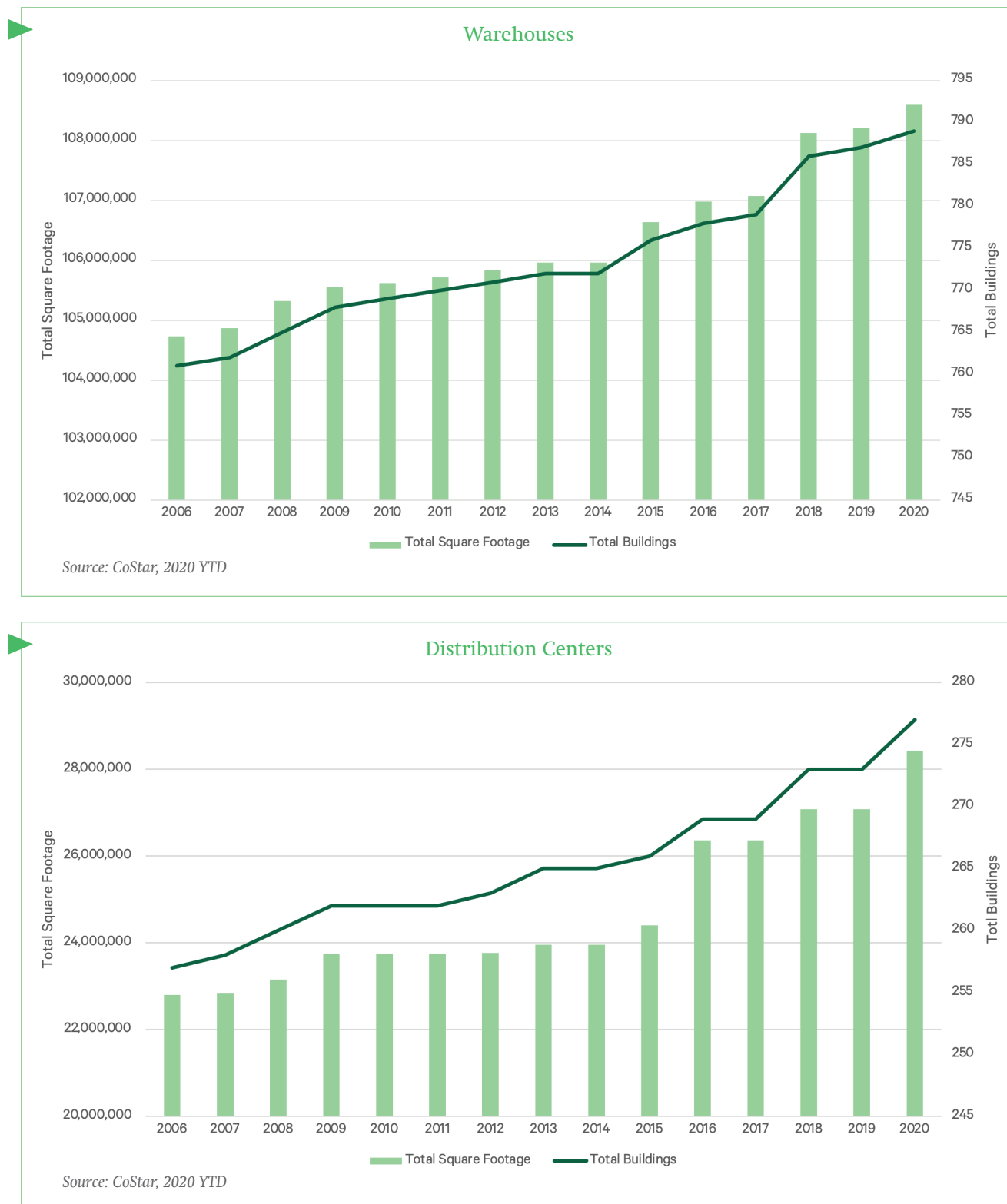


Note: MAPC's CoStar subscription coverage is for the eastern part of the state extending to the Quabbin Reservoir and does not include Cape Cod.



As shown in Figure 10, the number of warehouses and distribution centers has been steadily climbing since 2006. Currently, warehouse facilities comprise an estimated 790 buildings and total 108.6 million square feet. Distribution centers comprise an estimated 277 buildings, totaling 28.4 million square feet. It should be noted that not all of these facilities operate for e-commerce, but they illustrate the trends of warehousing and distribution centers in Massachusetts.

Figure 10. Warehouses and Distribution Centers in Eastern Massachusetts, 2006-2020





## CoStar Definitions

**Distribution:** Typically large buildings, both single and multi-tenant, used for the warehousing and distribution of inventory. Buildings are typically 200,000 square feet or more, with clear heights 28 feet plus, up to five percent office space and the balance being warehouse/storage space. These buildings typically have one loading door for every 10,000 square feet of Rentable Building Area (RBA) and site coverage up to 40 percent. These buildings are often cross-docked with trailer parking. MAPC included all properties listed as “Existing,” “Under Renovation,” “Proposed,” and “Under Construction” with no square footage minimum.

**Warehouses:** Typically 25,000 square feet or greater in size, box shape, with one loading dock for every 15,000 square feet of Rentable Building Area (RBA). Up to 20 percent office area with clear heights of 22 feet or greater. Site coverage is typically up to 50 percent. MAPC included all properties listed as “Existing,” “Under Renovation,” “Proposed,” and “Under Construction.” A square footage minimum of 60,000 square feet was applied.

One limitation of CoStar is that the data only represents commercial/rental properties. Accordingly, if a property is owned and operated by the same entity and not leased, the property is likely to not be included in the CoStar database.

## Delivery Operations

Frequently, e-commerce companies such as Amazon lease and repurpose space in existing warehouses for distribution centers.<sup>20</sup> Distribution centers require large parking lots where employees can park their personal vehicles and the company can stage delivery vans. Distribution centers provide “last mile” package delivery and expedite deliveries to residences and businesses. Their deliveries typically cover a 45-mile radius and serve a market area within an approximate 60-minute driving time of the site.<sup>21</sup>

In general, the daily operations of distribution centers begin with the arrival of tractor trailers that bring packages in bulk from fulfillment centers throughout the night, usually starting after 11 p.m. Customer orders are then sorted, prepped, and loaded into hundreds of delivery vans. Each morning, delivery van drivers travel to the distribution centers, typically by personal vehicle. After arriving, the drivers get into a loaded delivery van, drive out of the site, and make deliveries to customers. Delivery drivers are usually scheduled to enter and leave the site during off-peak morning traffic times. After all deliveries are made, drivers will drive their delivery vans back to the distribution center in the evening and depart from the site.<sup>22</sup>

In many cases, the departure of delivery vans is scheduled in waves. As one wave of vans leaves the site, another is loaded. Waves can continue throughout the morning, depending on demand. When there is additional demand, on-call drivers will be used to fulfill customer deliveries. On-call drivers usually arrive in the middle of the day and use their personal vehicle to make deliveries. Once deliveries are completed, the on-call drivers do not return to the site.<sup>23</sup> Including tractor trailers, delivery vans, and on-call drivers, a typical facility can generate more than 1,000 vehicle trips each day.<sup>24</sup>

Amazon also works with third-party Delivery Service Partners (DSPs) to make deliveries. Independently owned companies, DSPs manage employee benefits, compensation, and address liability issues. Amazon Flex, a program where independent contractors, called delivery partners, deliver Amazon orders to customers, may be used but Amazon will first hire a DSP with their own vans to deliver packages.<sup>25</sup> Amazon Flex drivers use their own vehicles and deliver what cannot be accommodated by vans.

The variety of delivery vehicle owners and operators adds to the challenge of managing and regulating transportation impacts such as curb usage. The novelty of this rapidly evolving business/operations model means that traditional trip generation forecasting methods are not applicable.



Sortation systems and robotics automate and streamline orders inside warehouse facilities and increase the speed and intensity of their operations. Such technological innovations are projected to accelerate the e-commerce industry – and of course, could further increase the numbers of vehicles making deliveries.

## Impacts of E-Commerce on Retail Infrastructure

The United States has more retail space than any other country. Price Waterhouse Coopers has estimated that there are about 24 square feet of retail floorspace per person in the United States, followed next by 11 square feet in Australia and between two and five square feet in Europe.<sup>26</sup> Brick-and-mortar retail real estate is vastly overbuilt in the United States, with some industry experts estimating the amount of overbuild to be about 50 percent.

Many malls and other traditional retail locations have been contending with sizable and steady closures, vacancies, and declining profits over the past several years. Nationwide, physical-store closures reached an all-time high in 2017 and again in 2019.<sup>27</sup> According to Coresight Research, approximately 25 percent of all malls nationwide (approximately 1,000) are projected to close over the next five years.<sup>28</sup>

Despite these significant and steady declines, retail sales are not diminishing. Rather, the retail landscape is transitioning from malls and physical retail locations to warehouses and distribution centers. Online shopping's share of total retail sales has been increasing by approximately one percentage point per year.<sup>29</sup> The overbuild of brick-and-mortar retail, coupled with the rise in e-commerce, has accelerated as to what industry professionals refer to as the 'retail apocalypse,' which began during the Great Recession of the late 2000s.<sup>30</sup> Both trends – the decline of traditional retail and the dramatic increase in e-commerce – predate the pandemic but have been accelerated by it.<sup>31</sup>



*Photo: Example of an Underutilized Strip Mall; MAPC*

According to a July 2020 report by CBRE Group, Inc., a commercial real estate firm, an estimated 13.8 million square feet of retail space has been converted to 15.5 million square feet of industrial space over the past three years nationwide.<sup>32</sup> Depending on where e-commerce facilities locate and where in-person retail stores close, municipalities could face various land use and fiscal challenges.



Some malls are being converted to warehouse and distribution centers. One well-known example is the Randall Park Mall near Cleveland, Ohio. Touted in the mid-1970's as one of the nation's largest shopping centers, Randall Park Mall was abandoned in 2009 and became an Amazon fulfillment center in 2018.<sup>33</sup> The retrofitting of malls with housing, offices, and other non-retail uses is likely to continue. According to a report issued by Barclay's, turning a closed mall into an e-commerce warehouse or a residential complex could reduce the value of the property between 60 percent to 90 percent.<sup>34</sup>

Nationwide, Simon Property Group has been exploring with Amazon the possibility of converting some of the property owner's anchor department stores into Amazon distribution hubs. Since many malls are sited near major highways and residential areas, these sites are considered strategic locations for distribution centers. The Simon Property Group owns 14 properties, mostly in eastern Massachusetts.<sup>35</sup> Should Amazon and Simon Property Group come to an agreement about utilizing department stores in Massachusetts to warehouse/distribution centers, the land use impacts could be significant.<sup>36, 37</sup>

## State and Municipal Revenues

The effect of e-commerce on state and municipal revenues that come from state sales and income taxes and municipal property taxes is difficult to gauge and not yet fully known. A study by the Economic Policy Institute concluded that Amazon fulfillment centers do not generate broad-based employment growth and that state and local policymakers seeking to maximize long-term benefits should avoid extending tax incentives to lure these businesses. The report argues that investments in public services are more effective than tax incentives at generating long-term economic growth.<sup>38</sup>

In Massachusetts, North Andover approved an estimated \$27 million in tax incentives to Amazon for a 3.6 million square foot distribution center. This tax increment financing (TIF) agreement will reduce Amazon's property tax bill over a period of ten years. Amazon will not receive a state tax break for this site. North Andover is expected to receive \$18 million in new net tax revenue over the ten-year agreement. In the decade after the agreement expires, the Town anticipates receiving an additional \$45.5 million in property taxes from Amazon.<sup>39, 40</sup>

Amazon has received tax breaks for other facilities in Massachusetts. In 2015, Amazon received approval for nearly \$16 million in state and local tax incentives for a distribution center in Fall River and an estimated \$3.5 million for a facility in Stoughton. Amazon will also receive up to \$10 million in property tax breaks from the City of Boston for offices in the Seaport District.

## Impacts of E-Commerce on the Restaurant and Grocery Industries

The restaurant and grocery industries are undergoing disruption by e-commerce. A significant component of e-commerce includes restaurant delivery and prepared meals.<sup>41</sup> Nationwide, transactions from services such as DoorDash, Grubhub, Uber Eats, and Postmates increased by approximately 200 percent between 2015 and 2020, generating an estimated \$26 billion in revenue in 2020.<sup>42</sup> The pandemic, due to the attendant closure of restaurants and restrictions to takeout and delivery, has reversed the prolonged trend of declining grocery consumption relative to eating out. Since the pandemic, traditional grocery consumption has grown faster than both restaurant deliveries and eating out.

According to research firm Brick Meets Click, online grocery sales for home delivery and pickup reached \$5.9 billion in November 2020, a threefold increase from August 2019.<sup>43</sup> The volume in number of orders has more than tripled to almost 63 million, and the number of customers has more than doubled to nearly 39 million during this period – along with an increase in the average amount of spending per order and shopping frequency.

Despite these increases, grocery delivery comprises an estimated 4.9 percent of the total grocery market. Increases in the grocery market are attributed to a decline in in-store grocery sales, rather than new growth. There is consensus among industry experts that, due to consumer demand, investments in e-commerce technology are accelerating online grocery sales. It is forecasted that online grocery sales are expected to grow



to 20 percent of total grocery retail by 2025. However, the overall growth of the grocery sector will most likely be moderate in the long term.<sup>44, 45</sup>

To meet current demand and maintain market share, grocers are improving their operational efficiency and enabling online sales with investments in delivery infrastructure and e-commerce technology. Shop & Shop, for example, is adding “warerooms” to their stores. Usually attached to traditional retail stores, warerooms serve as e-commerce distribution/spaces.<sup>46</sup>

In some cases, retail and grocery stores have become places to accommodate various combinations of in-store shopping, curbside pick-up, and distribution center operations. In other instances, retail and grocery stores are being converted to operate as dark stores or micro-fulfillment centers for home delivery or curbside pick-up – the latter of which is preferred by most customers. According to grocery store chain Kroger, for every customer who wants a home delivery, five customers want curbside pick-up.<sup>47</sup> Municipalities are increasingly faced with the challenge to revise their zoning laws to accommodate for these new land use demands.

Also referred to as cloud kitchens, dark kitchens, or virtual food halls, a ghost kitchen is a single commercial facility that houses multiple restaurant operators who prepare food for takeout or delivery exclusively to fulfill online orders. An emerging model and type of facility, these operations have no storefronts and no dining areas for patrons. Ghost kitchens are comparable to a coworking space for restaurant operators, with the exception that there is no need for front-of-house labor. These types of facilities are typically owned and operated by a third-party company, not a restaurant, and meal delivery companies such as DoorDash, GrubHub, and Uber Eats deliver the food.

Opening a traditional restaurant can be expensive, high-risk, and complex: ghost kitchens are considered to be lower-risk and more affordable. The up-front costs of restaurant space and equipment can be shared and rented under a ghost kitchen model and the costs of front-of-house staff are eliminated. The ghost kitchen model enables existing restaurants to expand their customer base without having to invest in and establish full-service restaurants. It offers a lower cost of entry, and as such can benefit newcomers to the industry. The ghost kitchen model is considered to have a large potential market opportunity and technology is enabling the restaurant industry to rapidly change.<sup>48, 49</sup> The long-term land use implications of dark stores and ghost kitchens, especially as they pertain to street vitality and local economies are unknown, but should be monitored.



Photo (left): Delivery & Pick Up Prep Room - Dedham Stop & Shop, MAPC

Photo (right): A Curbside Pick Up Sign - Dedham Stop & Shop, MAPC



## ► Chapter 4: Context of COVID-19 Pandemic





## Context of COVID-19 Pandemic

While COVID-19 has accelerated certain consumer patterns and behaviors, many of the trends impacting e-commerce were already underway prior to the pandemic. Although the long-term impacts of the COVID-19 pandemic are less certain, much of the shift to e-commerce will likely remain.

The role of the COVID-19 pandemic in the spike in U.S. online retail sales in 2020 can be broken into **four major areas of impact**:

- ▶ **Growth in non-store shopping and greater downturns in brick-and-mortar retail:** Amazon, the largest online retailer, saw its business increase by 43 percent in 2020.<sup>1</sup> By comparison, industry experts anticipate 15,000 to 25,000 store closures in the U.S. in 2020, mostly in malls; a projection which will shatter the 2019 record of 9,800 closures. The COVID-19 pandemic is accelerating changes in urban and suburban land uses, as malls and shopping centers close and as Amazon and other online retailers increase the number of warehouses and distribution centers.
- ▶ **Increased growth in “click and collect” shopping:** Customers have learned to order online and pick up their orders at larger brick-and-mortar retailers, including Target, Walmart, and Home Depot, either in-store or at the curb. Retailers who have invested in their online presence with same day “touch free pickup” will continue to generate traffic, both online and in-person.<sup>3</sup> Stores morphing into both in-person shopping and distribution/fulfillment centers may require the repurposing of parking lots. Parking areas may need less customer parking, but more space for curbside pickup and loading for trucks and vans. Measures to repurpose these facilities could cause increases in car, van, and truck traffic.
- ▶ **More online grocery purchases:** Amazon’s growth in 2020 has been led by their growth in grocery orders via Amazon Fresh and Whole Foods. Since the pandemic started in March 2020, 21 percent of consumers have tried online grocery shopping for the first time. Of that 21 percent, many have continued to shop for groceries online even as they also physically returned to food stores.<sup>4</sup>
- ▶ **Accelerated growth in online restaurant orders:** Over 40 percent of restaurants surveyed added delivery options during the pandemic. Many have stated that they will retain delivery options,<sup>5</sup> which means increases to curbside traffic and deliveries to households.

The pandemic has prompted more households to try their hand at e-commerce services that they may have not previously attempted. Once shopping habits are developed during the COVID-19 pandemic, these habits may continue. Any long-term shifts will likely mean changes in the physical layout and staffing of local retail facilities, along with increased delivery traffic, as stores and restaurants become both in-person destinations and distribution centers of online orders.



## ► Chapter 5: Future Trends and Additional Research Areas





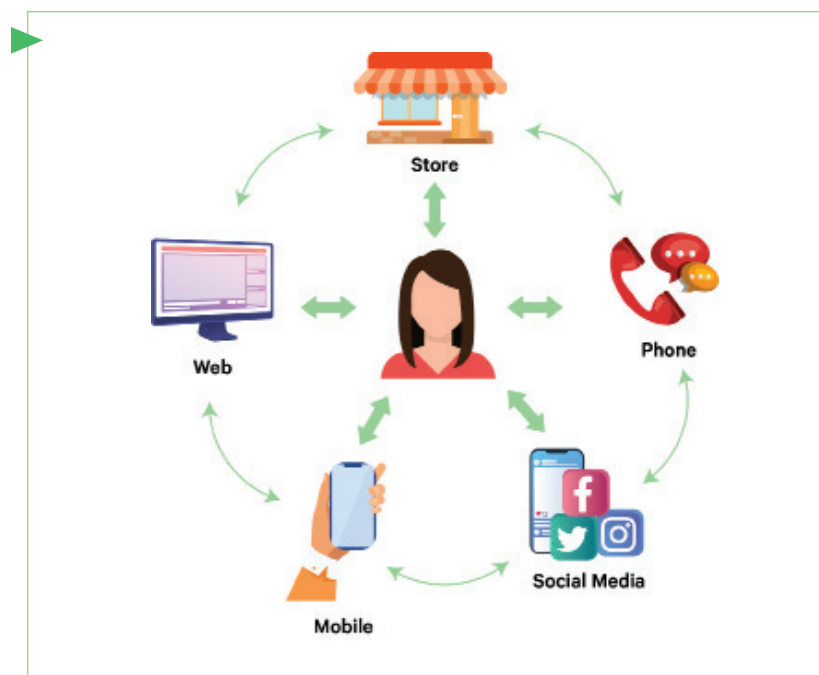
While writing this report, MAPC uncovered several trends and topics that were beyond the scope of this work, but which may be of interest to municipalities, policy analysts, and others. MAPC will continue following these trends and may study them further in the future.

## Omni-channel Retail

It is projected that e-commerce by itself will not be the future of retail. Rather, e-commerce will be omni-channel. Omni-channel retail integrates multiple sales channels (e.g., brick-and-mortar store, smart phone, laptop). The goal of the omni-channel retail business model is to provide customers with a seamless and a personalized shopping experience. Due to centralized data management, omni-channel retail simultaneously manages inventories (Figure 11).

Facilitated by technology and based on predicting customer behaviors, the omni-channel business model uses social media and is anticipated to apply emerging technologies such as augmented reality and personalized video soon. Omni-channel retail will successfully leverage and blend the online and in-store shopping experiences. Presently, the leading retailers in this space are Target and Walmart.<sup>1,2</sup> Further research of omni-channel retail will allow for a better understanding of future e-commerce trends in in-person or online shopping, the siting of warehouse and distribution centers and brick-and-mortar stores, and trip patterns.

Figure 11. Omni-channel Retail





## Sustainable Logistics

E-commerce logistics and delivery companies such as Amazon, Walmart, and UPS have announced goals to attain carbon neutrality and are making investments in the electric vehicle market.<sup>3</sup>

In September 2019, Amazon announced a Climate Pledge. As part of the Climate Pledge, Amazon plans to have 10,000 electric delivery vans on the road by 2022 and 100,000 by 2030.<sup>4, 5</sup> In June 2020, Amazon launched a \$2 billion fund to help attain carbon neutrality by 2040.

In September 2020, Walmart announced an initiative to reduce its global carbon footprint and is aiming for zero carbon emissions by 2040 for all its global operations. Part of this initiative is to convert to an all-electric vehicle fleet.<sup>6</sup> Similarly, in January 2020, UPS announced plans to add 10,000 electric trucks to its fleet,<sup>7</sup> and DHL has launched a GoGreen initiative that aims to perform 70 percent of last-mile deliveries with green vehicles by 2025, and reduce its logistics emissions to zero by 2050.<sup>8, 9</sup>

Additional research is needed to better understand how these programs are being deployed, the types of vehicles that are being invested in, and how other e-commerce companies can replicate programs by these early adopters.

## Waste and Recycling

Increasing e-commerce creates greater demand for cardboard and recycling, as well as packing materials that are not always recyclable. Recently, Amazon has turned to lighter weight plastic envelope mailers, which save both space and fuel, but which are not recyclable in some local single-stream recycling programs.<sup>10</sup> Additional research is needed to understand how the growth and changes in package materials are affecting the production of packaging in Massachusetts as well as waste and recycling.

## Shifts in the Warehouse and Distribution Center Marketplace

An increasing number of retailers are incorporating e-commerce, including making more deliveries and offering click-and-collect options. This further amplifies the demand for warehouse and distribution centers. Prologis, an owner, operator, and developer of industrial real estate, estimates that e-commerce retailers need approximately three times the warehouse space to generate revenues comparable to brick-and-mortar sales. In other words, to generate \$1 billion of revenue, a traditional retailer needs about 350,000 to 400,000 square feet of warehouse/distribution space, while an e-commerce retailer needs about 1.2 million square feet.<sup>11</sup> More research is needed on how the shift of in-person retail to online business models affect the size and spacing of warehouse and distribution centers and the warehouse real estate marketplace in Massachusetts.

## Third-Party Delivery Service Fees

Many consumers use third-party, app-based delivery platforms such as Grubhub, Uber Eats, DoorDash, and Postmates to place orders with restaurants for delivery. These third-party platforms charge restaurants delivery commission fees based on the purchase price. The fees are usually between 20 percent and 30 percent.<sup>12</sup> The Economic Development Bond Bill, which was passed by the Massachusetts General Court and signed to law by Governor Baker in January 2021, approved a 15 percent cap on these fees for the duration of the pandemic state of emergency.<sup>13, 14</sup> It is expected that this legislation will balance both the business interests of third-party delivery companies and the restaurants serviced by them.

## Residential and Commercial Building Design

As noted in Chapter 1, e-commerce and deliveries create a need for more parcel delivery and storage. This can be expected to affect the design of residential and commercial buildings, most of which were not designed for the heavy volumes of packages currently being delivered. For example, residential buildings will increasingly need to be designed with sufficient storage for packages and with refrigerated areas for groceries. The design of single-family houses could include repurposing porches and garages to serve as secure storage areas for deliveries.<sup>15</sup> Research is needed to identify potential design practices. This information can inform updates to zoning and building codes that would enable more efficient deliveries.



## ► Chapter 6: Potential Policy Responses to E-Commerce





Municipalities have an important role regarding the siting and operation of distribution/ warehousing facilities, and their approaches should align with and advance transportation, economic, and sustainability goals for the region.<sup>1</sup> While many of the following strategies can be implemented on the local level, others should be done regionally through regional planning agencies (RPAs). Some strategies could be implemented via the Commonwealth (agency to be determined) and may require state legislation to implement.

## Regional Coordination Among Municipalities

Municipalities must coordinate with one another proactively to understand e-commerce's cumulative impacts and to develop a comprehensive, regionwide strategy that can inform long-range planning and freight planning. The strategy should balance the region's vision and goals for employment, land uses, and traffic management with the needs of the private sector.

A comprehensive strategy can include standards for facility siting and design, transportation demand management policies, equitable employment practices, tax incentive programs, and operations monitoring. It can establish performance metrics, evaluation criteria, and formulas for determining mitigation fees. A comprehensive strategy can also identify specific recommendations for zoning, building codes, and other local regulations that manage the growth and impacts of e-commerce. Drawing from lessons learned in Boston and elsewhere, it can also spell out ways that municipalities can promote low-carbon, low-traffic last-mile delivery services.

The regional strategy should also include the development of an online transportation and land use design playbook for municipalities. This would help municipalities implement development standards and review specific facility proposals through a lens of equity, sustainability, and municipal finance. Standards may include designating truck routes to avoid residential neighborhoods, implementing safety measures to reduce conflicts on roadways, and requiring the use of cleaner vehicles (e.g., compliance with EPA emission standards).<sup>2</sup> With a common playbook, every municipality will be in a better position to consistently respond to facility proposals.

## Increase Transparency into the Growing E-Commerce Industry

The Commonwealth should require e-commerce companies to report information and metrics, such as the location of warehouse and distribution centers; employment (status, occupation, wages, and benefits); and transportation impacts (e.g., truck and other vehicle traffic) of e-commerce logistics and delivery. This data collection is a critical step in understanding and sustainably managing the impacts of e-commerce. New legislation authorizing state agencies to require this data may be needed.

## Create Incentives for Efficient Deliveries

Both the public and private sectors should incentivize more efficient deliveries to reduce traffic and associated GHG impacts. This can be done by determining a method to assess the impact of e-commerce on congestion and GHG emissions, and then setting a fee structure that incentivizes both companies and customers to opt for the more sustainable delivery options. These options can include combining orders into a single delivery, using common delivery/pick up areas such as package lockers, and not choosing expedited deliveries.

## Track Innovations in E-Commerce

The Commonwealth and regional planning agencies should track new technologies and innovations in the e-commerce industry to ensure that these developments have positive impacts. Amazon, UPS and others have implemented package lockers to make the last-mile delivery process more efficient, and implemented pilot programs with cargo bikes, autonomous vehicles and drones in select areas such as college and medical campuses. RPAs and others should monitor these new developments against public-sector performance standards for traffic congestion, GHG emissions, safety, waste, employment, workers' rights, and equitable service. Where needed, the Commonwealth and municipalities should develop regulations to minimize impacts and sustainably manage these innovations.



## Implement Curb Management Strategies

The explosive growth in e-commerce deliveries and ride-hailing is spurring municipal endeavors to control curbside congestion. Controlling curb space serves multiple functions, including providing access for e-commerce. The challenge is to manage this public right-of-way for all users, rather than just for the efficient delivery of goods. The following recommendations manage the curb are anticipated to promote a more efficient use of curb space and to reduce emissions caused by “cruising for parking” and engine idling.<sup>3</sup>

- ▶ **Conduct a comprehensive assessment of curb demand and designate spaces for the use of delivery vehicles.** There should be sufficient numbers of these spaces, and they should be distributed appropriately. The designation for deliveries could be both by location and time of day to allow for flexible uses. For example, curb lanes could be reserved for buses in peak commute periods, reserved for deliveries and other short-term uses at mid-day, and then allowed for overnight parking of private vehicles.
- ▶ **Establish mechanisms for delivery companies and TNCs to reserve those spaces as needed and to pay for the privilege of doing so, using a dynamic pricing model that will maximize efficient utilization of designated spaces.** Examples include providing discounts for TNC riders who walk to designed pick-up zones away from high traffic streets, and peak-period surcharges for deliveries (e.g., a grocery delivery will cost more if delivered at 5:30 pm).
- ▶ **Establish comprehensive and effective enforcement mechanisms** that can utilize both in-field enforcement and camera- or GPS-based enforcement with penalties and sanctions for violations, especially for violations in transit and active transportation facilities.
- ▶ **Conduct continuous re-evaluation of curb uses and violations** to determine if the curb management policies should be revised to ensure mobility goals (and other goals) are being met.



## ► Chapter 7: Next Steps and Areas for Further Research





This report identified trends where data was available to determine the impacts of e-commerce on our Commonwealth, particularly with regard to land use and traffic. As this report makes clear, while there is abundant evidence that e-commerce is a significant and growing part of the Commonwealth's economy, we know little about essential details such as trip generation, GHG emissions, local and regional impacts on brick-and-mortar retail, and on land development needs for warehouse and distribution centers.

Finally, the growing e-commerce sector has impacts in other areas not explored in detail in this report, including the environment (e.g., packaging waste), safety, employee rights and benefits, equity, and shifting employment and tax revenues.

Much more work needs to be done to understand this enormous and rapidly changing industry and its significant social and economic consequences. A deeper understanding will put the public sector in a better position to both manage the growth of the e-commerce sector and ensure the advancement of critical regional and local goals.

To collect information and meet this challenge, MAPC has identified the following steps: Data Collection, Management of Warehouse and Distribution Centers, Data Sharing Legislation, and Information Sharing.

## Data Collection

**Continue investigating available data sources to better understand the composition of the e-commerce workforce in Commonwealth, the scale of the industry, and its impacts on congestion, emissions, tax revenue, and other topics.** The impacts of e-commerce on malls and traditional retail, land use, the transportation network and employment all need to be better understood. MAPC and other RPAs should work with state agencies and municipal officials to identify and gain access to administrative data that can help shed light on these issues.

Additionally, more immediate data collection and analysis needs to be done in the following areas.

### ► **Research online sales versus traditional retail in Massachusetts.**

This research will uncover the extent to which online retail trends (and their impacts) in Massachusetts compare with the nation. Regional data from brick-and-mortar retail sales can shed light on geographic differences of e-commerce's impacts on traditional retail in the Commonwealth. Understanding the level of e-commerce retail in Massachusetts will help policy makers determine better ways to manage the land development, employment, and tax impacts of the shifting retail landscape.

### ► **Research the changes in Massachusetts retail and other key employment sectors by income and demographics.**

This research will enable policy makers to better understand the economic and equity impacts of the shift from in-person to online retail in the Commonwealth. Furthermore, this research could uncover the extent to which the growing number of e-commerce jobs, particularly delivery positions, are filled by independent contractors who may have limited or no retirement, paid leave, and health insurance benefits.



► **Research the changes in Massachusetts retail and other key employment sectors by geography.**

Not all e-commerce warehouse and distribution are accessible by public transportation, and their operations could create negative traffic, noise, and air quality impacts. It is important to know if, as distribution centers are increasingly located within urbanized areas to meet demand, these centers are being situated in communities of color and lower-income neighborhoods and creating disproportionate impacts.

► **Research the municipal fiscal impacts of e-commerce.**

More needs to be understood about the tax revenue implications for municipalities that experience mall and other traditional retail closures, and about the economic impacts to municipalities that host more e-commerce warehouses and distribution centers. While tax incentive programs, such as TIFs, encourage growth by lowering taxes in exchange for job creation and private investment, the long-term implications are unclear, and more research is needed.

► **Analyze online delivery vehicle patterns and volumes.**

This information could be obtained by conducting studies of larger scale residential buildings, e-commerce warehouse and distribution centers, and congested urban areas to better understand traffic and delivery trends. Findings from these studies could be used to create pilot programs for new delivery systems (e.g., e-cargo bikes, electric vehicles), to deploy innovative curb management practices, and to implement local options to moderate traffic and other impacts of e-commerce distribution and warehouse centers.

► **Investigate available sources of data about consumer preferences and shopping habits.**

More specific survey data are needed to determine the extent to which online orders may be replacing personal trips. Based upon similar national survey data, MAPC should determine whether a Massachusetts-focused survey of e-commerce consumer patterns is needed. If so, the agency would develop partnerships and solicit funding for a broad-based survey that would provide statistically significant results at the sub-regional level and for specific segments of the population. This information could be used to better estimate vehicular traffic, the number of deliveries per household, and the extent to which the number of deliveries per household varies according to demographic factors such as age, income, and automobile ownership.



## Management of Warehouse and Distribution Centers

**Collect and distribute actionable steps and example practices for municipalities for the review of warehouse and distribution centers.** The integration of warehouse and distribution centers will require deliberate design, mitigation, and management, especially where e-commerce facilities are proximate to higher density residential areas.

MAPC has been conducting research on how municipalities in Massachusetts are currently mitigating and managing the impacts of warehouse and distribution centers, and as an early follow up to this report, will develop a document on the management of e-commerce warehouse and distribution centers as a resource for other municipalities.

## Data Sharing Legislation

Based upon the findings from the additional research above, **draft legislation that will authorize state agencies to require e-commerce companies to provide data on impacts of critical public concern where it has been determined that information is not available.** As noted in Chapter 6, this legislation is needed to create visibility in the e-commerce industry and sustainably manage its impacts in employment and workers' rights, safety, traffic, equity, and the environment. The adoption of legislation will require the cultivation of advocacy partners and legislative sponsors.

## Information Sharing

**Regularly collect, compile, and evaluate permitting and monitoring documents for warehouse and distribution facilities statewide,** including information about economic incentive programs and tax revenue collections. The collected information will be publicly available and configured to allow for comparative analysis.

A consistent data collection method will enable a consistent approach to monitoring warehouse and distribution center projects, identifying example policies, and assessing the cumulative siting of warehouse and distribution facilities. This information will also aid in right-sizing mitigation and forecasting trip generation rates.

**Create a research clearinghouse on e-commerce, including findings from local pilot programs.** As a regional planning agency, MAPC intends to serve as a resource for continued information sharing and findings from surveys and pilot programs. Please e-mail [ecommerce@mapc.org](mailto:ecommerce@mapc.org) with relevant information you would like to contribute as part of this effort as well as to be informed of future initiatives.



# ► Appendix: Playbook of Actionable Steps to Manage Warehouses and Distribution Centers





The integration of warehouse and distribution centers will require deliberate design, mitigation, and management, especially if they are proximate to higher density residential areas.

Below are actionable steps for municipalities to consider implementing should a warehouse and/or distribution center be proposed for e-commerce related services. It is important to note that there is not one actionable step; rather several steps need to occur simultaneously.

MAPC conducted research on how municipalities in Massachusetts are currently mitigating and managing the impacts of warehouse and distribution centers. Several of the actionable steps contained in this chapter are based on that research. In particular, Everett's site plan approval process and the Traffic Engineering Peer Review recommendations for the Hingham contributed to the development of this chapter.<sup>1</sup> MAPC anticipates this section will be expanded as ongoing work continues and to reflect changes in the industry.

## Traffic Impact Studies

At a minimum, traffic impact studies should include the following:

- Projected trips for all vehicular types (e.g., employee vehicles, vans, trucks, and flex drivers).
- Site design (ingress, egress, and circulation).
- Accommodations for pedestrians and bicyclists.
- Amount of parking.

## Trip Forecasting

Presently, the Institute of Transportation Engineers (ITE) Trip Generation Manual<sup>2</sup> does not include a land use type that is directly applicable for warehouse and distribution centers. While ITE Land Use Codes for Industrial Park (140), Warehousing (150), High Cube Fulfillment Center Warehouse (155), and High-Cube Parcel Hub Warehouse (156) are related, they are not an exact match for e-commerce operations. If the ITE Trip Generation Manual does not include data for a similar land use, MAPC recommends the application of empirical trip data. According to ITE, "When practical, the user is encouraged to supplement the data in this document with local data that have been collected at similar sites."<sup>3</sup>

Since complex logistics facilities such as warehouse and distribution centers are not included in the ITE manual, trip forecasting should be based on proponent's plans for facility activity; and permits should be structured so as to establish clear, enforceable performance metrics for vehicle trips to and from the site.



## Site Plan Review

- ▶ A comprehensive site plan review and approval process should address the adequacy of the following:
- Building Design
  - Parking and Loading Facilities
  - Proposed Number and Type of Parking Spaces
    - *Provide a breakdown of the parking demands by functional use (i.e., associates/managers, visitors, Delivery Service Providers (DSPs) vans and drivers, etc.) in order to demonstrate that the proposed number of parking spaces is sufficient to meet the predicted parking demands.*
  - Traffic flow, Circulation, and Traffic Impact
    - *Access points and routes to and from the site to adjoining streets*
    - *Pedestrian and bicycle circulation systems to and from parking areas and structures*
  - External Lighting
    - *Type and amount to be provided*
  - Landscaping and Screening
    - *Type, quality, and quantity to promote an aesthetically pleasing environment and to properly screen the development from adjacent land uses*
  - Stormwater
    - *Method of surface drainage*
  - Utilities
    - *Methods of waste disposal (e.g., sewage and refuse) and water distribution*
  - Snow Removal and Storage
  - Protection and Enhancement of Natural Features
  - Compatibility of Architecture with Surrounding Area

## Traffic Mitigation

Negotiate appropriate traffic mitigation agreements.

- ▶ Traffic concerns residents frequently express regarding warehouse and distribution centers are as follows:
- Queuing, traffic, and idling on-site and in the community.
  - Trucks and vans utilizing residential streets and trucks accessing bridges with low underpasses.
  - Vehicles overwhelming gas stations when shifts begin or end.
  - Illegal off-site parking.
  - Vans pulled off to the sides of roads creating hazardous conditions for drivers to pass.
  - Processions of trucks and vans causing traffic at key intersections.

Traffic mitigation agreements can include the installation of traffic signals, intersection improvements, and monetary contributions.

## Restriction Zones

Where appropriate, such as where a warehouse is adjacent to a residential area, restrict truck and van access during certain times of the day/or day of week. This measure can reduce congestion and the road impacts of the facility on nearby neighborhoods.<sup>4</sup>



## Off-Site Parking

To minimize logistical and traffic issues, it is recommended that parking for all vehicular operations remain on-site. It critical that the on-site circulation plan be designed to reduce potential conflicts with different vehicle types, pedestrians, and bicyclists, and to minimize vehicles queuing in the street.

## Traffic Demand Management (TDM) Program

Implement a Traffic Demand Management (TDM) program that will discourage employees from traveling by single occupancy vehicles. TDM components can include discounted MBTA passes, internally secure bike racks, carpooling incentives, and a shuttle service accessing the Commuter Rail and MBTA Stations.

## Fueling Operations

It is common practice for e-commerce companies to assign fuel cards to drivers or vehicles. To manage traffic and queuing, municipalities should work with e-commerce companies to determine appropriate times (e.g., on return trips) and locations for refueling. This will help ensure vans don't overwhelm gas stations when shifts begin or end.

## Excise Tax

A proposed facility's vans should be required to be registered in the municipality where the facility is sited so the municipality can capture the excise tax.

## Vehicular and Roadway Signage

To promote public awareness and safety, ensure that vehicles (e.g., vans) and the site are appropriately signed.

## Idling

Do not permit on or off-site idling for all vehicles servicing the facility.

## Truck and Van Drivers

Prior to making deliveries, require all Delivery Service Provider (DSP) companies to be properly insured and perform driver background checks.

Be informed of truck and van driver protocols such as training, discipline, and incident (e.g., speeding) procedures.

## Project Monitoring Post Occupancy and Corrective Actions

Including a traffic monitoring program is essential. For example, the Traffic Engineering Peer Review for Hingham recommended a monitoring program that will commence within 90 days of the issuance of a Certificate of Occupancy for the Project and be repeated annually.

Any monitoring program should include established thresholds for traffic and/or motor vehicle crash volumes for trucks, vans, and passenger vehicles.

In Hingham, it was also proposed that to the extent measured traffic volumes for the project exceed the projected traffic volumes by more than 10 percent (i.e., 110 percent of the projected traffic volumes) and/or the calculated motor vehicle crash rates exceed the MassDOT average crash rates for similar intersections, corrective actions to reduce the unmitigated impact of the project should be proposed and implemented. Corrective actions should be documented in the traffic monitoring report.



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## Appendix

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**October 26, 2021**  
**Medway Planning & Economic Development Board**  
**Meeting**  
**Evergreen Village – Request for Field**  
**Change**

- 10-19-21 email from developer Maria Varrichione requesting a field change for materials for the retaining wall on the west side of the property.
- Photos showing the installed retaining wall with a Uni Lock Retaining Wall System instead of a traditional field stone wall
- Text below is excerpted from the Evergreen Decision

***I. On-Site Field Changes***

1. During construction, the Permittee may be authorized to make limited, minor, on-site field changes to the approved plan based on unforeseen site or job conditions, situations, or emergencies necessitated by field conditions or due to practical considerations. These field changes shall not alter items which may affect the site's compliance with this decision and the *Bylaw* nor conflict with a specific condition of the decision. Field changes shall not substantially alter the intent, layout or design of the endorsed site plan.

2. Prior to undertaking such field changes, the Permittee and/or contractor shall discuss the possible field changes with the Town's Consulting Engineer and submit a letter and drawings to the Planning and Economic Development Coordinator and the Building Commissioner describing the proposed changes and what conditions, situations, or emergencies necessitate such changes. In accordance with Section 3.5.2.C of the *Bylaw*, the Building Commissioner may determine that the field change is insubstantial, authorize the change, and so notify the Board. Otherwise, the Board shall review the proposed field changes at a public meeting and determine whether the proposed field changes are reasonable and acceptable based on the unforeseen conditions, situations, or emergencies and whether other options are feasible or more suitable. A written authorization of field change will be provided. Any approved field change shall be reflected in the as-built plan to be provided at project completion.



## Susan Affleck-Childs

---

**From:** Maria Varrichione <dreamhomesmv@gmail.com>  
**Sent:** Tuesday, October 19, 2021 3:54 PM  
**To:** Susan Affleck-Childs  
**Subject:** Modification request

Suzy, as we discussed, I would like to request a site modification from the planning board on the west side retaining stone wall to a Uni Lock Retaining Wall System. As we are all aware the construction of the wall is well under way. I take full responsibility for not coming to the PB sooner before the wall work was done to ask for a site modification.

When Ron brought it to our attention in his September report, the wall was 80% completed. Ron does also agree that this wall is a good fit, better conformance to the existing grade and less invasive to install within the tight space, as this is. In no way was this a short cut, it was a decision based on field experience by the experts who do this every day in the field. The error was taking too much liberty with the field change language.

My GC interpreted the " field change" language on the site plan as allowing discretion for us to proceed with what he and the mason felt is more practical and common practice. The drainage will remain the same, it will in no way affect the functionality of the wall. This wall also allowed us to not have to go as deep around the area of the tree roots and the ability to preserve the existing tree.

My GC has since spoken with the building commissioner who I believe is satisfied with the wall construction and feels it is appropriate for the purpose for which it was designed. The system has a plastic mesh grid that locks into the backfill holding it in place for years. The blocks are then filled with specific drainage stone (not gravel) allowing water to escape to the drainage pipe placed at the base of the wall. The blocks interlock together eliminating any movement or future repairs as often occurs with stone walls.

Aesthetically it has a very pleasing appearance even though only a small portion is visible due to the shrubs, brush, and small trees along the property line. (Photos sent in separate email) In time, as more growth occurs it will be even less noticeable but will stand the test of time, as opposed to a stone wall which will typically move and deteriorate over time. In no way would I want to perform any type of work that in the long run would not be beneficial for the community. Hopefully you have been by the project and that you are pleased with the quality of the units and how attractive they look. Several neighbors have also told us they very much like how nice they look.

--

**Maria Varrichione**  
[dreamhomesmv@gmail.com](mailto:dreamhomesmv@gmail.com)  
Mobile- 508-561-6048  
**RE/MAX Executive Realty**  
Platinum Club, Hall of Fame  
& Lifetime Achievement Award Recipient











VEHICLES  
WILL BE  
TOWED AWAY  
AT OWNER  
EXPENSE



















PRESIDENT  
PARKING  
ONLY  
UNAUTHORIZED  
VEHICLES  
WILL BE  
TOWED AWAY  
AT OWNER'S  
EXPENSE





**October 26, 2021**

**Medway Planning & Economic Development Board  
Meeting**

**Wingate Farm Subdivision Modification**  
**Public Hearing**

- Public Hearing Continuation Notice to 10-26-21
- Letter from project engineer Dan Merrikin dated 10-12-21 with supplemental information on sight distances north and south from Wingate Farm Road onto Holliston Street.

**NOTES**

- 1. The current deadline for the Board to file its subdivision modification decision with the Town Clerk is December 31, 2021.**
- 2. I have not yet asked Tetra Tech to review this letter. I need to invoice the applicant for additional plan review funds to replenish the plan review account. I await Tetra Tech's invoice for September services so I can provide the current account status invoice accordingly.**



### **Board Members**

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



Medway Town Hall  
155 Village Street  
Medway, MA 02053  
Phone (508) 533-3291  
Fax (508) 321-4987  
Email: [planningboard@townofmedway.org](mailto:planningboard@townofmedway.org)  
[www.townofmedway.org](http://www.townofmedway.org)

## **TOWN OF MEDWAY** **COMMONWEALTH OF MASSACHUSETTS**

### **PLANNING AND ECONOMIC DEVELOPMENT BOARD**

RECEIVED TOWN CLERK  
SEP 29 '21 PM3:00

### **MEMORANDUM**

September 29, 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 Wingate Farm Subdivision Modification**  
**168 Holliston Street and Wingate Farm Road**  
***Continuation Date – Tuesday, October 26, 2021 at 7:30 p.m.***



At its September 28, 2021 meeting, the Planning and Economic Development Board voted to continue the public hearing on the application of Karyl and Eugene Walsh of Medway, MA for approval of a modification to the previously issued subdivision decision and plan for Wingate Farm to Tuesday, October 26, 2021 at 7:30 p.m. The Wingate Farm definitive subdivision plan was approved in 2005; it divided the property into 4 lots with a permanent private roadway known as Wingate Farm Road.

Considerable work has been undertaken to install the subdivision's infrastructure. However, the specified completion deadline and various extensions have expired. The primary purpose of the current application is to establish a new deadline for project completion and for the Board to consider the applicant's request for waivers from certain provisions of the Board's *Subdivision Rules and Regulations* which are now in effect.

The application and associated documents are on file at the offices of the Town Clerk and the Planning and Economic Development Board at Medway Town Hall, 155 Village Street and may be reviewed during regular business hours. The as-built plan and application materials have also been posted at the Board's web page at: <https://www.townofmedway.org/planning-economic-development-board/pages/wingate-farm-subdivision-plan>

***If you have any comments or recommendations about the proposed modification, please email those to me by October 20<sup>th</sup>.***





[dan@legacy-ce.com](mailto:dan@legacy-ce.com)

508-376-8883(o)

508-868-8353(c)

730 Main Street

Suite 2C

Millis, MA 02054

October 12, 2021

Planning & Economic Development Board  
155 Village Street  
Town Offices  
Medway, MA 02053

Ref: Wingate Farm  
168 Holliston Street  
Definitive Subdivision Construction/Modification

Dear Members of the Board:

I am writing to offer the following additional information for the Board's consideration regarding intersection sight distance. Please note the following:

- Based on discussion with the Board, we have limited our analysis to currently available intersection sight-distance (with proposed should improvements, but not considering future Timber Crest Holliston Street profile improvements). An intersection sight-distance plan is attached. Looking north, the intersection sight distance (ISD) is 260 feet. Looking south, the ISD is well in excess of 500 feet and is a function of horizontal road geometry. Vertical road geometry looking south is not a limiting factor. While we did not consider the Timber Crest improvements in these measurements, it should be recognized that they will increase the northerly ISD considerably.
- As we previously noted, AASHTO indicates that the minimum intersection sight distance is the stopping sight distance (SSD), as that will allow vehicles sufficient room to prevent a collision. Based on the formula provided in the AASHTO manual, the recommended SSD for the posted 35 mph speed limit is 246 feet.
- Given the profile of the road to the north of the site, we do not believe that an adjustment for road slope is appropriate. At the beginning of the southbound SSD, the road slope is uphill, which would decrease the recommended SSD while at the end, the road slope is downhill, which would increase the recommended SSD. As the attached profile indicates, the ISD sight line is nearly level. For reference, however, the Green International study for Timber Crest included a 3.8% downhill slope correction (since their northerly sight line is predominantly downhill), which adjusted the recommended SSD to 260 feet using the formula contained within the AASHTO manual.





- As discussed at the last hearing, it is our view that the minimum required sight distance specified in the subdivision regulations should be based on the posted speed limit.<sup>1</sup> In order to reinforce speed limits on the southbound travel lane, the Applicant is willing to install whatever reasonable signage the Board thinks is appropriate. It is our opinion that the proposed intersection warning sign is sufficient, but the Applicant is willing to install an additional speed limit sign closer to the site or perhaps a speed display feedback sign, if the Board feels it is necessary.
- As indicated on the attached plan, the existing shoulder grade to the north of the new road will be lowered by 2-3 feet to achieve the ISD. Some vegetation will be removed but it does not appear that any large trees will need to be removed.
- We note that there is a 24" oak tree to the south of the new road about 7 feet off the edge of the paved travel way. Based on our field observations, the tree does not materially impact ISD looking south as it is in the same sight line as the existing utility pole. Drivers can see behind the tree for the full ISD to the south.

Do not hesitate to contact me should you have any questions or comments.

Yours Truly,

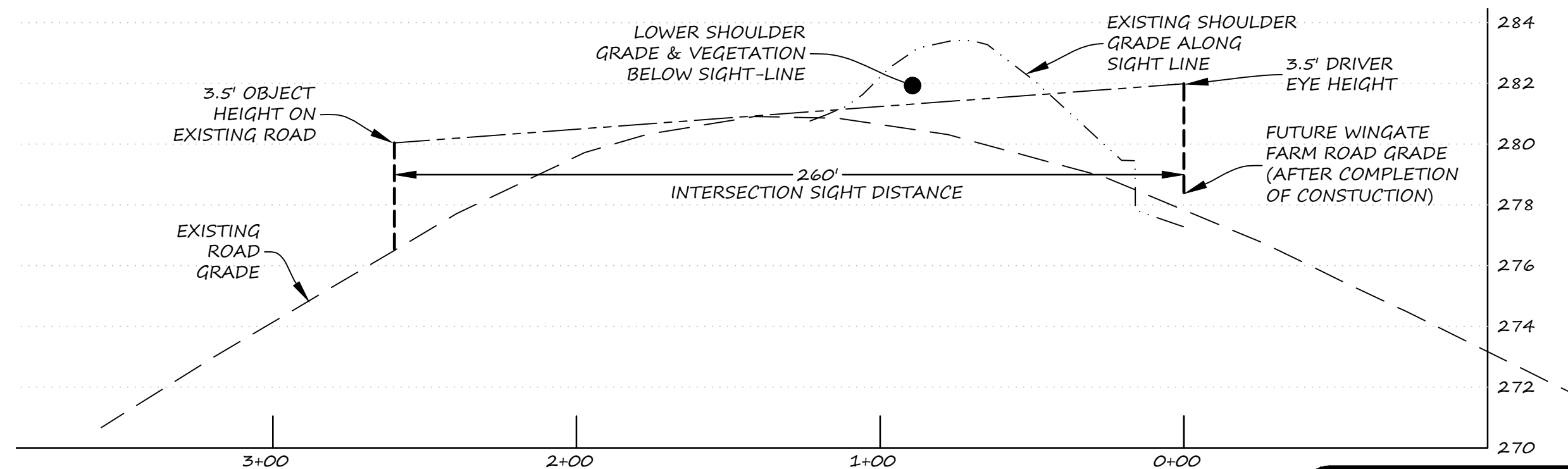
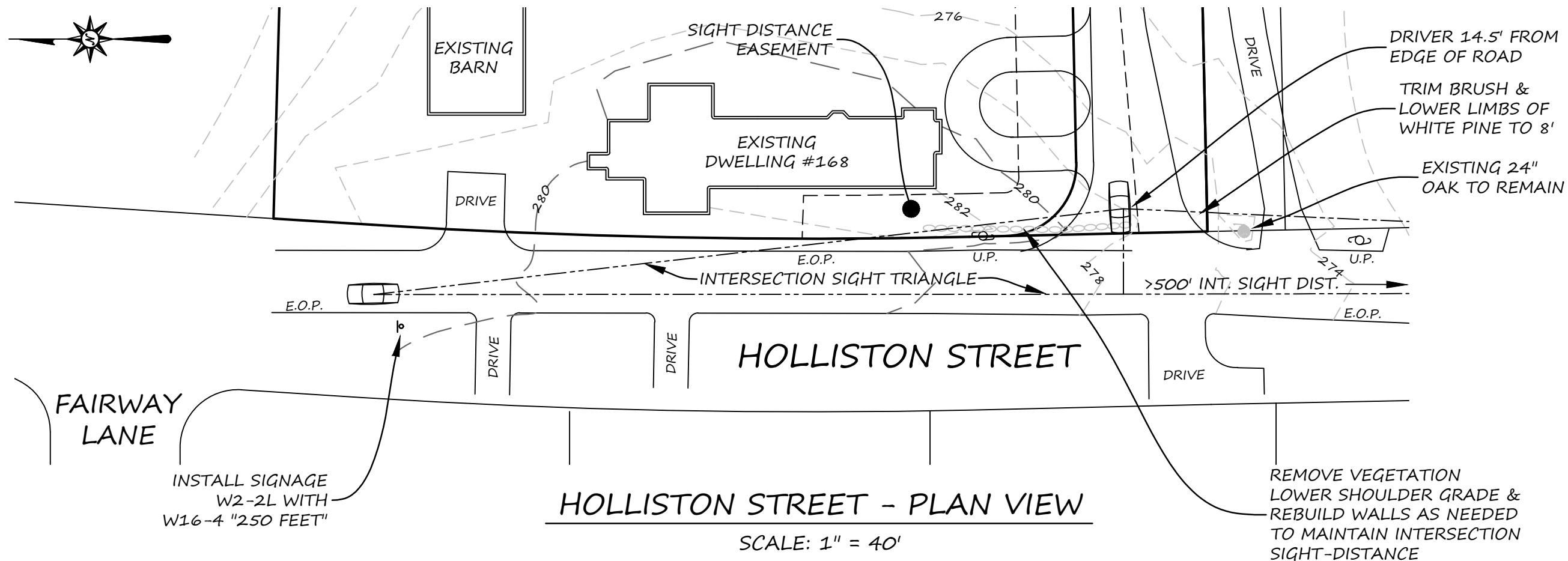
LEGACY ENGINEERING LLC

Daniel J. Merrikin, P.E.  
President

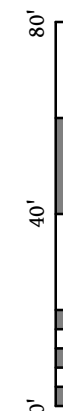
---

<sup>1</sup> Green International reported an 85<sup>th</sup> percentile speed of 41 mph (which is expected to be reduced with additional traffic control signage). For reference, the recommended SSD for 41 mph is 312 feet (using AASHTO formulas).





PLAN SCALE: 1" = 40'



PLAN DATE: OCTOBER 12, 2021

REVISION	DATE	BY

WINGATE FARM  
INT. SIGHT DISTANCE  
PLAN OF LAND  
IN  
MEDWAY, MA

730 MAIN STREET  
SUITE 2C  
MILLIS, MA 02054  
508-376-8883(o)

SHEET 1 OF 1



**LEGACY**  
ENGINEERING





**October 26, 2021**

**Medway Planning & Economic Development Board  
Meeting**

**William Wallace Village – Performance**

- Performance Security Agreement for Cash
- Release of Covenant
- Bond Estimate dated 9-27-21 for \$354,324. The PEDB approved this amount at its 10-12-21 meeting.

I recommend the Board sign the Release of Covenant and the Performance Security Agreement contingent on:

- not providing it to the Permittee for recording and
- not authorizing the Building Department to issue building permits

until the performance security funds are provided to the Town. Those funds are expected to be available on Thursday, 10-28-21.



**Town of Medway  
Planning and Economic Development Board**

**Agreement for Deposit of Money to Secure Performance**

This performance Agreement is entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2021, between the Town of Medway, acting through its Planning and Economic Development Board, with an address of 155 Village Street, Medway, MA 02053 (hereinafter referred to as "the Board"), and DTRT, LLC, a Massachusetts limited liability company (hereinafter referred to as "the Applicant") with a usual place of business and address of 10 Hunt Street, N. Falmouth, MA 02556 to secure the completion of site improvements as shown on an approved site plan described below.

WHEREAS, on January 28, 2020, after a duly noticed public hearing, the Board issued a Multi-Family Special Permit and Site Plan Decision to DTRT, LLC for a site plan which is entitled "William Wallace Village, Medway, MA Site Plan" for 274 Village Street, prepared by Legacy Engineering, Inc. of 730 Main Street, Suite 2C, Millis, MA 02054 dated June 25, 2019, Latest Revision March 24, 2020 (hereinafter referred to as "the Site Plan") and endorsed its approval on said plan on April 10, 2020; and

WHEREAS, the Board's Site Plan/Special Permit Decision requires the applicant to post a performance guarantee if an occupancy permit is sought before all approved site improvements are completed; and

WHEREAS, the Applicant has decided to secure the completion of site improvements by means of providing a sum of Three Hundred Fifty-Four Thousand Three Hundred Twenty-Four (\$354,324.00) Dollars, said amount based on the estimate provided by the Town's Consulting Engineer and approved by the Board on September 28, 2021;

NOW, THEREFORE, the parties agree as follows:

1. The Applicant hereby binds and obligates itself, its executors, administrators, devisees, heirs, successors and assigns to the Board in the sum of \$354,324.00 and has secured this obligation by depositing with the Town of Medway Treasurer a deposit of money in the above sum to be deposited in an escrow account in the name of the Town of Medway. The deposit of money to be used to secure the performance by the Applicant of all conditions, agreements, terms and provisions contained in the Board's Site Plan Decision; all conditions subsequent to approval of the site plan due to an amendment, modification or revision to the Site Plan; all of the provisions set forth in this Agreement and any amendments thereto; and the following additional documents:

\_\_\_\_\_  
(hereinafter the "Approval Documents").

2. The Applicant shall complete the construction and installation of site improvements no later than July 15, 2024. Said date is three years from the date of endorsement of the Site plus an additional 462 days pursuant to Chapter 53 of the Acts of 2020, as amended by Chapter 201 of the Acts of 2020 adopted in response to the Covid-19 pandemic.



3. Upon completion of all obligations as specified herein and as may be included in the Approval Documents, on or before the required completion date, or such later date as may be specified by vote of the Board with the concurrence of the Applicant, the Board shall release the Applicant from this Agreement.

4. In the event the Applicant should fail to complete the site improvements as specified in the Approval Documents and within the time herein specified, the Board may apply the funds held by the Treasurer of the Town of Medway, in whole or in part, for the benefit of the Town of Medway to the extent of the reasonable costs to the Town of Medway to complete the construction of site improvements as provided in this Agreement. Any portion of the funds that are not applied as set forth above, shall be returned to the Applicant upon completion of the site improvements by the Town of Medway.

5. The Board, after notice to the Applicant and an opportunity for the Applicant to be heard, may rescind its approval of the Site Plan for breach of any provision of this Agreement or any amendments thereof.

6. The Board, at its discretion, may grant an extension of time and/or reduce the amount of the deposited funds and notify the Applicant and the Treasurer of the Town of Medway of any authorized adjustment.

7. The Applicant and the Board agree and understand that the Board will not release the funds in full until the site improvements have been deemed by the Board to be constructed and installed in accordance with the Approval Documents and this Agreement. This Agreement does not expire until the Board releases the funds in full.

9. If a court of competent jurisdiction determines that any provision of this Agreement is unenforceable, such determination shall not affect the remaining provisions, which shall remain in full force and effect.

IN WITNESS WHEREOF we have hereunto set our hands and seals this \_\_\_\_\_ day of \_\_\_\_\_, 2021.

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

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**COMMONWEALTH OF MASSACHUSETTS**

**NORFOLK, SS**

On this \_\_\_\_\_ day of \_\_\_\_\_, 2021, before me, the undersigned notary public, personally appeared the following members of the Medway Planning and Economic Development Board, \_\_\_\_\_



proved to me through satisfactory evidence of identification, which was (personal knowledge) (Massachusetts driver's license), to be the persons whose names are signed on the preceding document and acknowledged to me that they signed it voluntarily for its stated purpose as members of the Medway Planning and Economic Development Board.

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_

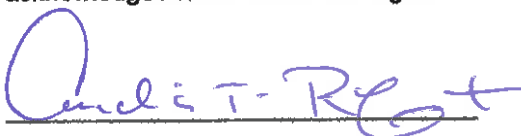
**DTRT, LLC**

By:   
Gregory A. Rucki  
Title/Position: Manager

**COMMONWEALTH OF MASSACHUSETTS**

**NORFOLK, SS**

On this 21 day of OCTOBER, 2021, before me, the undersigned notary public, personally appeared the above-named Gregory Rucki, Manager of DTRT, LLC, Applicant or person duly authorized to execute this Agreement on behalf of the Applicant, proved to me through satisfactory evidence of identification, which was DRIVER'S LICENSE (personal knowledge) (Massachusetts driver's license), to be the person whose name is signed on the preceding document, and acknowledged to me that it was signed voluntarily for its stated purpose.







AMALIA T. RAFTELIS  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires December 26, 2025

Notary Public

My commission expires: 12/26/2025

## ***APPENDIX***

***A. SITE PLAN/SPECIAL PERMIT DECISION***

***B. SITE IMPROVEMENTS COMPLETION COST ESTIMATE***



**TETRA TECH**

**Bond Estimate**  
**274 Village Street**  
**Medway, Massachusetts**  
**September 27, 2021**

Marlborough Technology Park  
 100 Nickerson Road  
 Marlborough, MA 01752  
 Tel 508.786.2200 Fax 508.786.2201

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST <sup>1</sup>	ENGINEERS ESTIMATE
001	Mobilization (3% of Const. Cost)	1	LS	\$8,300.00	\$8,300
002	Earthwork & Rough Grading	1	LS	\$2,500.00	\$2,500
003	Cape Cod Berm	830	FT	\$15.00	\$12,450
004	Concrete Curb	60	FT	\$50.00	\$3,000
005	Adjust Drain/Sewer Castings	5	EA	\$425.00	\$2,125
006	Adjust Water Gate Box	2	EA	\$250.00	\$500
007	Blinder Course - Sidewalk	17	TON	\$110.00	\$1,870
008	Top Course - Sidewalk	20	TON	\$110.00	\$2,200
009	Top Course - Roadway	140	TON	\$110.00	\$15,400
010	Granite Block Wall	84	FT	\$195.00	\$16,380
011	Vinyl Privacy Fence	330	FT	\$63.00	\$20,790
012	Irrigation Well	1	EA	\$15,000.00	\$15,000
013	Landscaping	1	LS	\$65,000.00	\$65,000
014	Post Light	18	EA	\$2,500.00	\$45,000
015	Loam Borrow	370	CY	\$57.00	\$21,090
016	Seeding	2,213	SY	\$2.00	\$4,426
017	Jute Mesh for Stabilization	2,213	SY	\$6.00	\$13,278
018	Signage	4	EA	\$125.00	\$500
019	Striping	1	LS	\$1,500.00	\$1,500
020	Conservation Bounds	11	EA	\$600.00	\$6,600
021	Snow Plowing <sup>2</sup>	1	LS	\$3,000.00	\$3,000
022	Street Sweeping <sup>2</sup>	1	LS	\$2,000.00	\$2,000
023	Clean Catch Basins/WQ Units <sup>2</sup>	16	EA	\$250.00	\$4,000
024	Maintain Common Areas/Basins/Infiltration System <sup>2</sup>	1	LS	\$4,000.00	\$4,000
025	Maintain Silt Sacks <sup>2</sup>	2	EA	\$150.00	\$300
026	Remove Erosion Controls	1	LS	\$2,500.00	\$2,500
027	Legal/Engineering Services	1	LS	\$6,000.00	\$6,000
028	As-Builts	750	LF	\$5.00	\$3,750

**Subtotal** \$283,459  
**25% Contingency** \$70,865  
**Total** \$354,324

**Notes:**

<sup>1</sup>Unit prices are taken from the latest information provided on the MassDOT website. They utilize the MassDOT weighted bid prices (Combined - All Districts) for the time period 9/2020 - 9/2021. **Items highlighted in gray have been updated since our previous estimate.**

<sup>2</sup>This item will remain in the estimate until the Project is entirely complete and occupancy is granted to all units.



**Release of Covenant**  
**Planning & Economic Development Board – Town of Medway, MA**

We, the undersigned members, being a majority of the Planning & Economic Development Board of the Town of Medway, Norfolk County, Massachusetts, hereby certify on this date that all dwellings to be constructed in the William Wallace Village Condominium, created by Master Deed dated \_\_\_\_\_, 2021, recorded with the Norfolk County Registry of Deeds in Book \_\_\_\_\_, Page \_\_\_\_\_, and being located on Lot C-2 and Parcel A as shown on a plan entitled *William Wallace Village, Medway, MA* dated June 25, 2019, last revised March 24, 2020, drawn by Legacy Engineering LLC which was recorded with the Norfolk County Registry of Deeds on August 14, 2020 as pages 24-29 in Plan Book 694 of 2020, to which reference may be made for a more particular description, are hereby released from the terms, provisions and conditions as to sale and building thereon as set forth in a Multi-Family Housing Development Covenant dated as of April 3, 2020, and recorded with said Registry of Deeds in Book 39896, Pages 111 – 115 on September 27, 2021. This Release of Covenant is a release of the entire covenant and relates to all Units in the above referenced project.

Executed under seal this \_\_\_\_\_ day of \_\_\_\_\_, 2021.

*Signatures of a majority of the members of the Planning & Economic Development Board of the Town of Medway:*

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**COMMONWEALTH OF MASSACHUSETTS**

Norfolk County, SS.

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\_\_\_\_\_,  
members of the Medway Planning and Economic Development Board, proved to me through satisfactory evidence of identification, which was personal knowledge, to be the persons whose names are signed on the above document, and acknowledged to me that they signed it voluntarily and for its stated purpose.

\_\_\_\_\_  
Notary Public  
My commission expires:

**Commented [SA1]:**

NOTE – The developer's attorney has advised that the master condo deed will be recorded on 10-26-21. Upon receipt of that recording information, I will insert the details here.



**TETRA TECH**

**Bond Estimate**  
**274 Village Street**  
**Medway, Massachusetts**  
**September 27, 2021**

Marlborough Technology Park  
 100 Nickerson Road  
 Marlborough, MA 01752  
 Tel 508.786.2200 Fax 508.786.2201

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**25% Contingency** \$70,865  
**Total** \$354,324

Notes:

<sup>1</sup>Unit prices are taken from the latest information provided on the MassDOT website. They utilize the MassDOT weighted bid prices (Combined - All Districts) for the time period 9/2020 - 9/2021. **Items highlighted in gray have been updated since our previous estimate.**

<sup>2</sup>This item will remain in the estimate until the Project is entirely complete and occupancy is granted to all units.





**October 26, 2021**  
**Medway Planning & Economic Development Board**  
**Meeting**

**Phytopia Public Hearing**  
**UPDATED**

- Public Hearing Continuation Notice to 10-26-21
- Letter from project engineer Chris Sparges dated 10-12-21 summarizing site plan changes resulting from discussions with the PEDB, DRC, and Conservation Commission
- Letter from project engineer Chris Sparges dated 10-12-21 in response to Tetra Tech's 6-8-21 plan review letter
- Revised Site Plan dated 10-12-21 by William Sparges Engineers, Planners and Surveyors
- Draft marijuana special permit decision dated 10-22-21
- 10-18-21 email communication from attorney Ted Cannon re: delivery protocols
- **10-25-21 edited version of draft decision by attorney Ted Cannon**

The applicant has asked the Board to begin work on a decision for the medical and adult recreational marijuana special permit.

NOTE – If the Board goes ahead with a marijuana special permit decision, we will need the applicant to authorize an action deadline extension for the site plan component of this development proposal.



## 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



Medway Town Hall  
155 Village Street  
Medway, MA 02053  
Phone (508) 533-3291  
Fax (508) 321-4987  
Email: [planningboard@townofmedway.org](mailto:planningboard@townofmedway.org)  
[www.townofmedway.org](http://www.townofmedway.org)

## TOWN OF MEDWAY COMMONWEALTH OF MASSACHUSETTS

### PLANNING AND ECONOMIC DEVELOPMENT BOARD

RECEIVED TOWN CLERK  
SEP 29 '21 PM 2:26

## MEMORANDUM

September 29, 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 Phytopia, Inc  
Marijuana Special Permit, Major Site Plan, Groundwater Protection Special  
Permit, and Reduced Parking Special Permit  
Continuation Date -- Tuesday, October 26, 2021 at 7:45 p.m.*

At its September 28, 2021 meeting, the Planning and Economic Development Board voted to continue the public hearing on the application of Phytopia, Inc. of Peabody, MA for approval of special permits to operate a non-retail Registered Medical Marijuana cultivation and processing establishment and a Recreational Marijuana (adult-use) cultivation and processing establishment, a major site plan, a groundwater protection district special permit, and a reduced parking special permit for a proposed development at 6 Industrial Park Road to Tuesday, October 26, 2021 at 7:45 p.m. in Sanford Hall at Medway Town Hall, 155 Village Street.

The applicant proposes to use the existing 53,128 sq. ft. industrial manufacturing building at 6 Industrial Park Road and construct a 66,238 sq. ft., 2-story addition to the existing building for the cultivation, manufacturing, processing, and packaging of marijuana for medical use and adult recreational use and the delivery of such products off site to retail marijuana establishments in other communities. A retail marijuana operation is NOT proposed.

The planned scope of work includes interior renovations to the existing building, construction of the addition, improvements to the access/egress driveways, installation of curbing, parking area improvements, landscaping, lighting, and installation of and improvements to stormwater drainage facilities. The planned work is shown on a plan titled *Industrial Park Road*, dated April 1, 2021 prepared by Williams & Sparages Engineers, Planners and Surveyors of Middleton, MA. The architectural drawings dated April 6, 2021, last revised June 2, 2021 were prepared by Anderson Porter Design of Cambridge, MA. Noise and odor mitigation plans have also been provided. The project is also subject to the Conservation Commission for an Order of Conditions and a Land Disturbance Permit.

The application, site plan and supporting documentation were filed with the Town on May 12, 2021 and are on file with the Medway Town Clerk and the Community and Economic Development Department at Medway Town Hall, 155 Village Street, Medway, MA. Project



information including the revised site plan has been posted to the Planning and Economic Development Board's page at the Town's web site at: <https://www.townofmedway.org/planning-economic-development-board/pages/phytopia-inc-6-industrial-park-road-marijuana-facility>.

The Board welcomes review comments from Town staff, boards and committees.

Please do not hesitate to contact me if you have any questions.





Project No. MEDW-0017

October 12, 2021

Medway Planning & Economic Development Board  
Town Hall  
155 Village Street  
Medway, MA 02053

**Subject:        Revised Site Plan Set  
                    6 Industrial Park Road – Phytopia, Inc.**

Dear PED Board Members,

The purpose of this letter is to provide a summary of the site plan changes that have come as a result of our work over the past several months with the PEDB, the Design Review Committee, and the Conservation Commission. Attached to this letter, please find a copy of the revised site plan drawing set.

#### PEDB Discussions

- 1) Members noted Tetrattech's comment regarding reducing the number of curb cuts for the project. We presented data to the PEDB explaining that the Medway Industrial Park is a low traffic generator and that 4 curb cuts would not create an unsafe condition. After reviewing the comment letter from Tetrattech in more detail, we evaluated the six existing parking spaces in front of the existing building and decided to eliminate this area of pavement. The six parking spaces were added to the new parking field on the northwest corner of the site. There is now one proposed curb cut on Industrial Park Road and 2 curb cuts on Jayar Road.
- 2) A waiver was requested from the site plan review requirements for preparing an existing landscape inventory. The members voted not to approve this waiver. The existing conditions plan has been updated with an inventory of the existing landscape information for the subject property.
- 3) Mr. Rodenhiser stated that the PEDB will include a condition of no parking on the street. The applicant has indicated that they are in agreement.
- 4) Tetrattech suggested adding a bike rack to the project. A bike rack for seven bicycles has been added off the northeast corner of the proposed addition along the pedestrian sidewalk.
- 5) Light spill at the property line has been brought up several times by members of the PEDB. The photometric plan has been designed to comply with the Town's requirements regarding light spill. Along the eastern property line with 24 Jayar Road, a



6-ft high opaque fence had been added to help prevent light spill. Similarly, a row of arborvitae plantings is proposed along the southern property line to help prevent light spill.

- 6) Mr. Hayes commented that where parking spaces are proposed along sidewalks, curb stops will be required. In the alternative, a 7-foot wide sidewalk should be provided to accommodate bumper overhang. Several parking spaces are proposed along the sidewalk along the north and west sides of the building. We have added wheel stops to these locations.
- 7) On August 10, 2021, Bridget Graziano, the Conservation Agent, attended the PEDB meeting and asked what material of construction will be used for the proposed roof of the building. DEP's Stormwater Management Regulations tell us that roof runoff from certain types of roof materials is considered clean and can be discharged directly into the ground. The proposed roof materials is rubber, which is considered a clean roof by DEP.
- 8) Bridget Graziano also asked if had met with the Department of Public Works (DPW) regarding an MS4 permit. The project will not require an MS4 permit as we are controlling our stormwater runoff in compliance with DEPs stormwater management regulations.
- 9) Connectivity from the east parking field to the west parking field was discussed several times at PEDB and by the Design Review Committee. We reviewed the possibility of running a driveway from east to west, but it would have resulted in a more restrictive site. After much discussion, a sidewalk was added to connect the east side of the project to the west side. Additional landscaping was added along the sidewalk along with a rain garden and bike rack. Employees can now traverse by foot across the entire site without going onto the roadways.

#### Design Review Committee Discussions

- 1) Several members commented about adding screening around the proposed transformers and generator. The members also asked us to increase the amount of proposed landscaping. The landscaping plan was updated to reflect the screening of equipment. In addition, the numbers of shrubs, trees, and perennial plantings was increased. A row of 32 arborvitae plantings was also added along the south side of the building.
- 2) The members suggested adding a pedestrian walkway to connect the east and west portions of the site. This change was made to the drawings and presented to the members at our second design review committee meeting.
- 3) Several architectural changes were recommended by members of the committee. They worked closely with our project architect, Brian Anderson, to update the plan.



- 4) Members asked that we add a walkway between the new front sidewalk along the building and the small parking area that contains the six existing parking spaces on Industrial Park Road. The change was made and then eliminated once we figured out a way to completely remove the small six parking space parking field.
- 5) The committee asked that we include a note that states dead shrubs and dead trees shall be removed from tree save areas to improve the health of the tree save areas. A note has been added to the landscape plan.
- 6) Members asked that we add a bike rack to the project. A bike rack for seven bikes has been added off the northeast corner of the proposed addition.
- 7) One of the member asked us to review the color rendering index (CRI) value for our proposed lighting and maintain a CRI value of at least 80. CRI measures the ability of a light source to accurately reproduce the colors of the object it illuminates. CPR values of 80 and higher are considered to show colors most accurately and increase visibility, which helps improve safety in a parking lot setting. We reviewed the lighting design and changed the lamp specifications to achieve a CRI of 80 for our proposed lighting.

#### Conservation Commission

- 1) At our hearing on May 13, 2021, Bridget Graziano asked us to locate the trees that were removed within the jurisdiction of the Conservation Commission. One of our field crews visited the site and located the trees as part of an overall existing landscape inventory. The trees that were taken are shown on the existing conditions plan as stumps.
- 2) At our hearing on May 13, 2021, Bridget Grieziano requested a site walk with our wetland scientist to review the wetland line. Some wetland flags were moved. The updated flag locations are shown on the site plan set.
- 3) At our hearing on May 13, 2021, Bridget Graziano stated that she would be working closely with representatives from DEP, including Judy Schmitz, the section chief for the DEP Bureau of Water Resources, Wetland Division. DEP has reviewed our Notice of Intent (NOI) filing and identified on their data portal that they had no comments on our filing.
- 4) At our hearing on May 13, 2021, Bridget Graziano asked us to show snow storage areas on the site plan set. We pointed out to the members that the snow storage areas were shown on the landscape plan, but it appeared that the scanned image was light in color. We have since darkened the snow storage areas on the plan.
- 5) At our hearing on May 13, 2021, Mr. Travalini asked us to establish a clear barrier along property lines and stormwater management areas so that snow is not pushed beyond the property boundaries or into a stormwater management area. We have added a





guardrail in the eastern parking field just uphill of the extended detention basin to act as a barrier for the stormwater management area.

- 6) At our hearing on May 13, 2021, Mr. Travalini asked us to add a note to the drawing to remind the contractor to install the barrier under the extended detention basin. We have added a note on the landscaping plan.
- 7) At our hearing on May 13, 2021, Mr. Travalini note that the Commission will require some replacement plantings for trees that were removed within the Conservation Commission's jurisdiction. We have added 4 river birch trees in the southeast corner of the property in the vicinity of where the trees were taken.

In summary, the purpose of this letter was to summarize the site plan changes that have occurred as a result of our work with the PEDB, Design Review Committee, and the Planning Board. We look forward to meeting with the PEDB in the near future to review the plan changes in person. In the meantime, please feel free to contact me directly if you have any questions, comments, or concerns.

Very truly yours,

Chris Sparages, P.E.  
Principal

Enclosures

cc: Attorney Edward Cannon  
Phytopia, LLC  
Medway Conservation Commission





Project No. **MEDW-0017**

October 12, 2021

Ms. Susan E. Affleck-Childs  
Medway Planning and Economic Development Coordinator  
Medway Town Hall  
155 Village Street  
Medway, MA 02053

**Subject: Response to June 8, 2021 review comments from Tetra Tech  
Phytopia, Inc.  
Major Site Plan Review  
6 Industrial Park Road  
Medway, Massachusetts**

Dear Ms. Affleck-Childs,

The purpose of this letter is to address the Major Site Plan Review comments from Tetra Tech dated June 9, 2021. The numbered responses that follow correspond to the numbered comments in the review letter.

**SITE PLAN REVIEW**

*1. A written Development Impact Statement was not provided. However, the Applicant is requesting a waiver from this requirement. (Ch. 200 §204-3.F)*

**No response necessary.**

*2. A Stormwater Pollution Prevention Plan (SWPPP) was not provided. However, the Applicant acknowledged in the cover letter that one will be completed once the final scope of the Project is clearly defined and will file it at a later date. (Ch. 200 §204-3.G.3)*

**A SWPPP will be prepared at the time the EPA NOI application is submitted, prior to land disturbance activities.**

*3. A Construction Management Plan was not provided. However, the Applicant acknowledged in the cover letter that one will be provided once the final scope of the Project is clearly defined and will file it at a later date. (Ch. 200 §204-3.H)*

**See Land Disturbance Permit Application dated October 1, 2021.**

*4. Earthwork Calculations have not been provided. However, the Applicant acknowledged in the cover letter that one will be provided once the final scope of the Project is clearly defined and will file it at a later date. (Ch. 200 §204-3.I&J)*

**See attached earthwork calculations.**



5. *A copy of an Order of Resource Area Delineation (ORAD) was not provided. However, the Applicant has acknowledged in their cover letter that an NOI has been submitted with the Medway Conservation Commission. (Ch. 200 §204-3.K)*

**No response necessary.**

6. *Cover sheet has not been provided in the Plans. However, applicable cover sheet information is provided on the Site Context Sheet/Location Plan. A list of requested waivers should be added to the sheet once approved by the Board. (Ch. 200 §204-5.A)*

**A cover sheet with a list of waivers has been provided, see sheet 1 of 10.**

7. *The Locus Plan provided on the Location Plan is missing clearly labeled brooks, streams, wooded areas, protected open spaces, recreation fields, landmarks, and public facilities. (Ch. 200 §204-5.B.1)*

**A Site Context Plan has been provided, see sheet 2.**

8. *Dimensions of lot lines and easement areas (if applicable) have not been provided on the Site Context Sheet. Additionally, metes and bounds should be included on all plans. (Ch. 200 §204-5.B.3)*

**Dimensions of lot lines has been provided, see sheet 2.**

9. *The source of existing topography and the vertical datum reference have been provided. (Ch. 200 §204-5.B.4)*

**No response necessary.**

10. *An Erosion and Sediment Control Plan was not included in the plan set. However, the Applicant acknowledged in the cover letter that it will be completed and submitted to Medway Conservation Commission as part of the Land Disturbance Permit Application. (Ch. 200 §204-5.D.5)*

**See Land Disturbance Permit Application dated October 1, 2021.**

11. *A Building Elevations and Architectural Plan was not provided in the Plans. (Ch. 200 §204-5.D.9)*

**Refer to the architectural plans.**

12. *Color Renderings were not provided in the Plans. (Ch. 200 §204-5.D.10)*

**Refer to the architectural plans.**

13. *A Building Layout or Floor Plan was not provided in the Plans. (Ch. 200 §204-5.D.11)*

**Refer to the architectural plans.**



*14. Entry and Exit locations to Structures were not provided in the Plans. (Ch. 200 §204-5.D.12)*

**Entry and exit locations have been provided, see sheet 6.**

*15. Site Amenities Details were not provided in the Plans. (Ch. 200 §204-5.D.13)*

**Site amenity details have been provided, see sheet 10.**

*16. A Master Signage Plan was not provided in the Plans. (Ch. 200 §204-5.D.14)*

**Refer to architectural plans. The plans presented by the project architect to the PEDB and Design Review Committee included proposed signage.**

*17. The Plans do not include horizontal sight distances for the public roads at any of the four curb cuts at the Site. The Applicant has acknowledged this will be completed and filed at a later date. (Ch. 200 §204-5.D.16)*

**Horizontal site distances have been provided, see sheet 12.**

*18. Locations of proposed fire hydrants and emergency access lanes not provided on plans. A hydrant exists on Industrial Park Drive immediately across the street from the Project. We recommend Plans and supporting information be submitted to Medway Fire Department for review and comment. (Ch. 200 §204-5.D.18)*

**There are two existing fire hydrants along the Industrial Park Road and three existing fire hydrants along Jayar Road within close proximity to the subject property. It is our understanding that members of the development team have met with Police and Fire Department officials.**

*19. Sidewalks along the building in the west parking lot are proposed at 5-foot width but abut parking which requires width to be increased to seven feet to accommodate bumper overhang. (Ch. 200 §207-9.B.1)*

**Curb stops have been added to the parking spaces directly adjacent to sidewalks. Proposed sidewalks to remain at five feet in width.**

*20. There is a total of four curb cuts proposed for the Project which we believe may be excessive for a Project of this size. We recommend the Applicant explore combining the parking areas along the west property line to help reduce the proposed curb cuts. We understand there are three existing curb cuts, but we believe the site can be designed to reduce this condition. The Regulations favor one curb cut per roadway at corner lots. (Ch. 200 §207-11.A.2)*

**The existing condition has three curb cuts and the proposal seeks to retain two while adding one and removing one for a total of three curb cuts as in the existing condition.**





21. Bituminous berm is proposed for the entire curb length for the Project. Typically, curb cut radii are delineated with vertical granite curb which may transition to bituminous berm on the interior of the site is approved by the PEDB. (Ch. 200 §207-11.A.4)

**The existing curbing on Industrial Park Road and Jayar Road is bituminous and the proposed curbing at site entrances are proposed to remain bituminous.**

22. Portions of the proposed driveways discharge stormwater runoff to the right of way. Stormwater and land disturbance permit is being reviewed by the Medway Conservation Commission and we believe this comment will be addressed during that review. (Ch. 200 §207-11.A.15)

**No response necessary.**

23. Portions of the west and east parking lots are proposed within 15 feet of the property lines which does not comply with the Regulations. (Ch. 200 §207-12.G.3.b)

**The east parking lot essentially follows the existing pavement line and is proposed to remain. The west parking field remains as shown on the civil drawings.**

24. The Applicant has not supplied provisions for electric vehicle parking stations. (Ch. 200 §207-12.I)

**Two spaces are designated for electric vehicles, see sheet 6.**

25. It appears the existing electric connection will be extended to the proposed addition and no new connections are proposed. It should be noted that all proposed connections shall be located underground. (Ch. 200 §207-16.A)

**Proposed transformer locations are shown. All underground electrical connections are proposed to be underground. A note is added to the plans that all proposed connections shall be underground, see sheet 5.**

26. The Applicant has not proposed any screening of the existing dumpster location at the site. (Ch. 200 §207-17.C)

**The proposed trash enclosure is a 40-yard roll-off container that will be accessed via a chute from inside the building. A chain-link security fence with slats and gates are proposed. A detail of the chain-link fencing has been provided, see sheet 10.**

27. The Photometric Plan does not show any light levels beyond the property lines. We anticipate light trespass along the northwestern and northeastern and eastern property lines. (Ch. 200 §207-18)

**The Photometric Plan has been revised to show light levels beyond the property line.**

28. The Applicant has not proposed any landscaping along the eastern property line to screen the Project. Existing tree line will remain along the northern and western portions of the site. We recommend the





*PEDB visit the site to determine if the extent of vegetation to remain conforms with the "spirit" of the Regulation. (Ch. 200 §207-18)*

**A six foot high opaque fence is proposed along the eastern property line, see sheet 10.**

29. The Applicant has not proposed any internal landscape islands to break up the parking areas and provide shade. (Ch. 200 §207-19.C)

**Additional trees and shrubs have added to the proposed landscape plan.**

30. *The Applicant shall provide narrative and note on Plans to describe method for irrigating proposed landscaping at the site. Town water supply shall not be used for irrigation at the property. (Ch. 200 §207-19.K)*

**No irrigation system is proposed at the present time.**

#### **GROUNDWATER PROTECTION DISTRICT REVIEW**

31. *A generator is proposed for the Project and are prohibited in the Groundwater Protection District unless required by statute. The Applicant shall provide narrative related to the generator and whether it is a statutory requirement of the business. (ZBL §5.6.3.E.2.b)*

**Please see application materials submitted to the PEDB in support of an application for a Groundwater Protection District Special Permit, dated August 4, 2021 and subsequent letter from attorney Cannon dated September 15, 2021.**

32. *The Applicant shall provide a list of any hazardous materials that may be stored at the site and their method of containment. (ZBL §5.6.3.E.2.k)*

**Please see application materials submitted to the PEDB in support of an application for a Groundwater Protection District Special Permit, dated August 4, 2021 and subsequent letter from attorney Cannon dated September 15, 2021.**

33. *The Project proposes approximately 140,000 square feet of impervious coverage after the proposed expansion which triggers special permit review of the Project. Consequently, the Applicant has proposed groundwater recharge for the development, consistent with the bylaw, which is currently being reviewed by the Medway Conservation Commission. (ZBL §5.6.3.E.3.e)*

**No response necessary.**

34. *We have concerns whether proposed groundwater recharge at the site is viable due to historic contamination at the site. The Medway Conservation Commission is currently reviewing the Stormwater and Massachusetts Contingency Plan (MCP) reporting for the Project. (ZBL §5.6.3.F.1.a)*

**Please see response letter from Knoll Environmental dated September 15, 2021.**





### GENERAL COMMENTS

35. *The Applicant is proposing two additional water connections to the site for a total of four. We recommend the Applicant coordinate with Medway Department of Public Works (DPW) to determine if these connections should be consolidated as part of this Project.*

**The applicant has met with representatives from the DPW. The two existing water service lines will be cut and capped as shown on the site plan set.**

36. *There are no additional sewer connections proposed for the Project other than the one existing. We recommend the Applicant provide narrative to determine if the existing connection is sufficient to serve to Project as it appears the size of the existing service is unknown.*

**When the DPW marked out the existing water and sewer service locations in the spring of 2019, we were informed that the existing sewer service is a 6-inch PVC pipe. The existing service is more than adequate to serve the needs of the proposed use. The applicant has also filed for and received an industrial discharge permit from the Charles River Pollution Control District.**

37. *Mulch sock should be depicted in the "Siltfence with Mulch Sock" detail on the Construction Details Plan.*

**Mulch sock is depicted on the Construction Details Plan, see sheet 9.**

38. *The existing information on the Plans is difficult to read and should be updated in future submissions for ease of review.*

**The existing information has been updated to increase readability.**

Please feel free to reach out to us if you or any of your staff have any questions, comments, or concerns.

Very truly yours,

Chris Sparages, P.E.  
Principal

MEM:CPS

Enclosures



**6 INDUSTRIAL PARK ROAD  
EARTHWORK CALCULATIONS  
OCTOBER 1, 2021**

**PROPOSED ADDITION:**

**Volumes calculated to one foot below finished floor grade**

Volumes by Triangulation (Prisms)

Existing Surface: P:\MEDW-0017(6 Industrial Park Road)\Drawings\EXISTING(210930).tin

Final Surface: P:\MEDW-0017(6 Industrial Park Road)\Drawings\PROPOSED\_ADDITION(210930).tin

**Cut volume: 0.0 C.F., 0.00 C.Y.**

**Fill volume: 65,678.5 C.F., 2,432.54 C.Y.**

Area in Cut : 0.0 S.F., 0.00 Acres

Area in Fill: 33,118.9 S.F., 0.76 Acres

Total inclusion area: 33,118.9 S.F., 0.76 Acres

Average Fill Depth: 1.98 feet

Cut to Fill ratio: 0.00

Import Volume: 2,432.5 C.Y.

Elevation Change To Reach Balance: -1.983

Volume Change Per .1 ft: 122.7 C.Y.

Cut (C.Y.) / Area (acres): 0.00

Fill (C.Y.) / Area (acres): 3199.43

Max Fill: 3.761 at 5031.208,5798.474

**PROPOSED PARKING AREAS:**

**Volumes calculated to one foot below finished pavement grade**

Volumes by Triangulation (Prisms)

Existing Surface: P:\MEDW-0017(6 Industrial Park Road)\Drawings\EXISTING(210930).tin

Final Surface: P:\MEDW-0017(6 Industrial Park Road)\Drawings\PROPOSED\_PARKING\_BASE(211001).tin

**Cut volume: 32,363.5 C.F., 1,198.65 C.Y.**

**Fill volume: 14,770.0 C.F., 547.04 C.Y.**

Area in Cut : 31,791.1 S.F., 0.73 Acres

Area in Fill: 19,995.0 S.F., 0.46 Acres

Total inclusion area: 51,855.3 S.F., 1.19 Acres

Average Cut Depth: 1.02 feet

Average Fill Depth: 0.74 feet

Cut to Fill ratio: 2.19

Export Volume: 651.6 C.Y.

Elevation Change To Reach Balance: 0.339

Volume Change Per .1 ft: 192.1 C.Y.





Cut (C.Y.) / Area (acres): 1006.90

Fill (C.Y.) / Area (acres): 459.53

Max Cut: 5.609 at 5071.852,5663.121

Max Fill: 2.761 at 5031.208,5798.474

**PROPOSED GRASS AREAS:**

Volumes by Triangulation (Prisms)

Existing Surface: P:\MEDW-0017(6 Industrial Park Road)\Drawings\EXISTING(210930).tin

Final Surface: P:\MEDW-0017(6 Industrial Park Road)\Drawings\PROPOSED\_GRASS(210930).tin

**Cut volume: 16,703.8 C.F., 618.66 C.Y.**

**Fill volume: 14,113.6 C.F., 522.72 C.Y.**

Area in Cut : 13,714.2 S.F., 0.31 Acres

Area in Fill: 20,144.6 S.F., 0.46 Acres

Area exactly in daylight: 7,595.5 S.F., 0.17 Acres

Total inclusion area: 41,454.3 S.F., 0.95 Acres

Total exclusion area: 138,102.4 S.F., 3.17 Acres

Average Cut Depth: 1.22 feet

Average Fill Depth: 0.70 feet

Cut to Fill ratio: 1.18

Export Volume: 95.9 C.Y.

Elevation Change To Reach Balance: 0.062

Volume Change Per .1 ft: 153.5 C.Y.

Cut (C.Y.) / Area (acres): 650.09

Fill (C.Y.) / Area (acres): 549.28

Max Cut: 5.424 at 5120.687,5593.986

Max Fill: 4.012 at 4815.741,5729.176

**TOTAL EXPORT VOLUME:**

**0.00 C.Y. + 1,198.65 C.Y. + 618.66 C.Y. = 1,817 ± C.Y.**

**TOTAL IMPORT VOLUME:**

**2,432.54 C.Y. + 547.04 C.Y. + 522.72 C.Y. = 3,502 ± C.Y.**

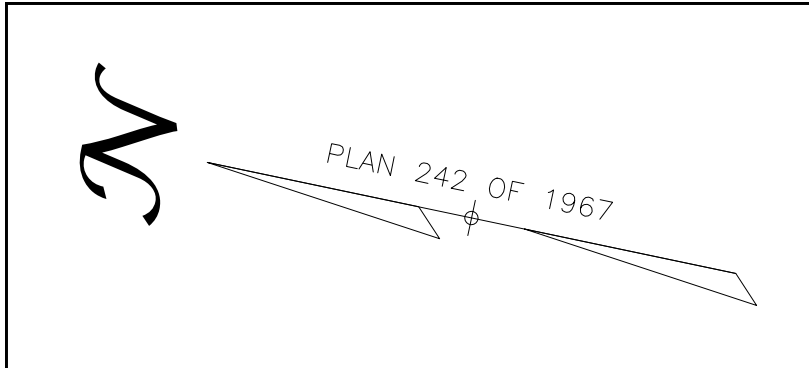
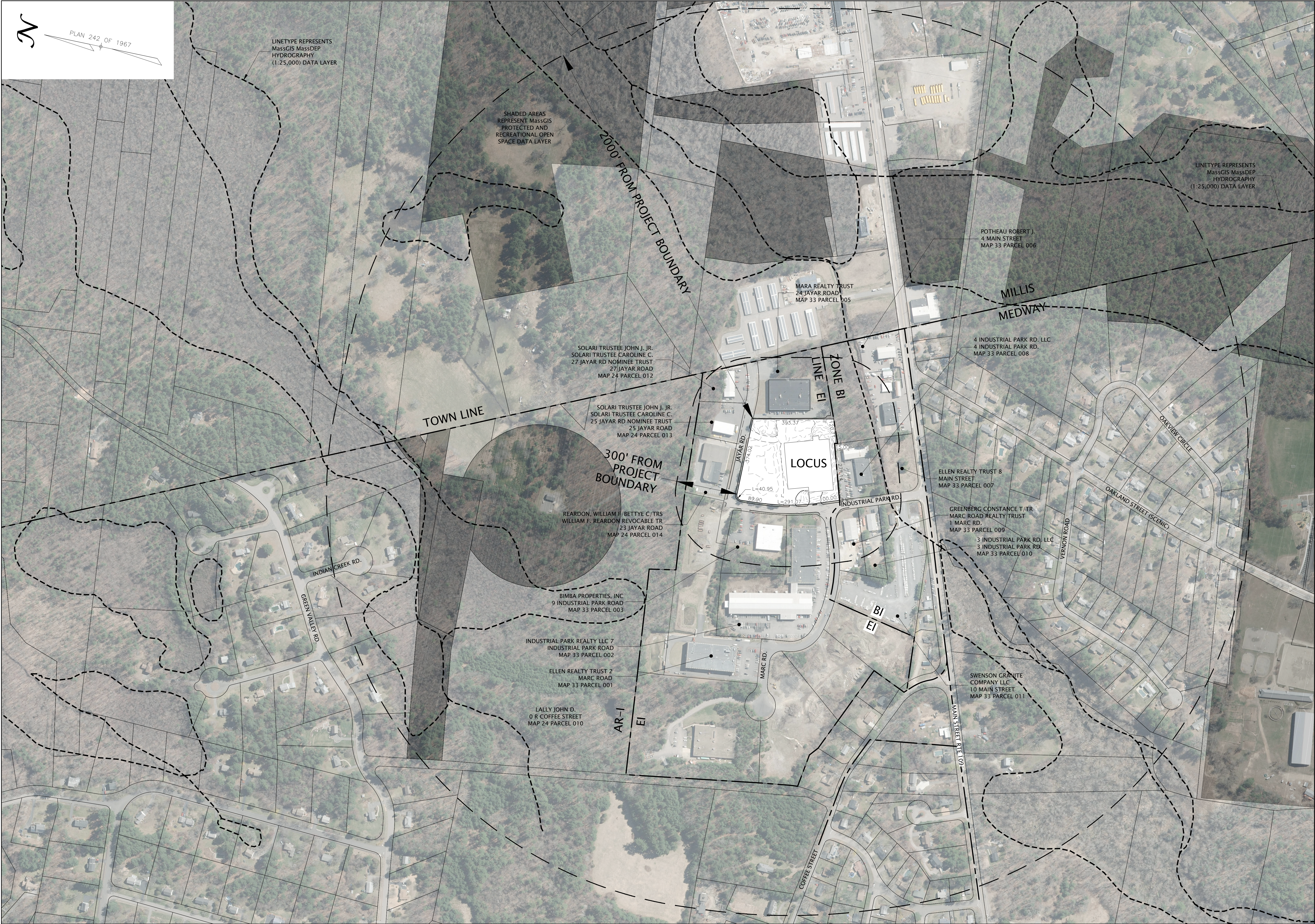
**NET VOLUME:**

**3,502 C.Y. ± - 1,817 C.Y. ± = 1,685 C.Y. ± IMPORT**





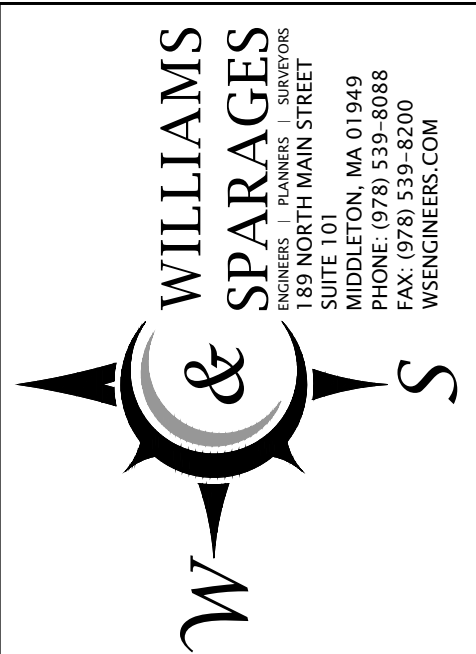




LINETYPE REPRESENTS  
MassGIS MassDEP  
HYDROGRAPHY  
(1:25,000) DATA LAYER

SHADED AREAS  
REPRESENT MassGIS  
PROTECTED AND  
RECREATIONAL OPEN  
SPACE DATA LAYER

LINETYPE REPRESENTS  
MassGIS MassDEP  
HYDROGRAPHY  
(1:25,000) DATA LAYER



Owner:  
Medway Flower, LLC  
990 Paradise Road  
Swampscott, MA 01907

Applicant:  
Phytopia, Inc.  
25 Newbury Street  
Peabody, MA 01960

Designed By: MEM  
Drawn By: MEM  
Reviewed By: CPS  
Project Manager: CPS  
Job File Number: MEDW-0017  
Drawing File Folder: MEDW17

☒ Drawing Issued for Review  
☐ Drawing Issued for Permit  
☐ Drawing Issued for Construction

SEAL

**SITE CONTEXT PLAN**  
**INDUSTRIAL PARK ROAD**  
6 INDUSTRIAL PARK ROAD, MEDWAY, MA

6	6	12	11	10	9	8	7
10/12/2021	Peer Review	10/12/2021	7	8	9	10	11

DRAWING: C1.2

SHEET 2 OF 12

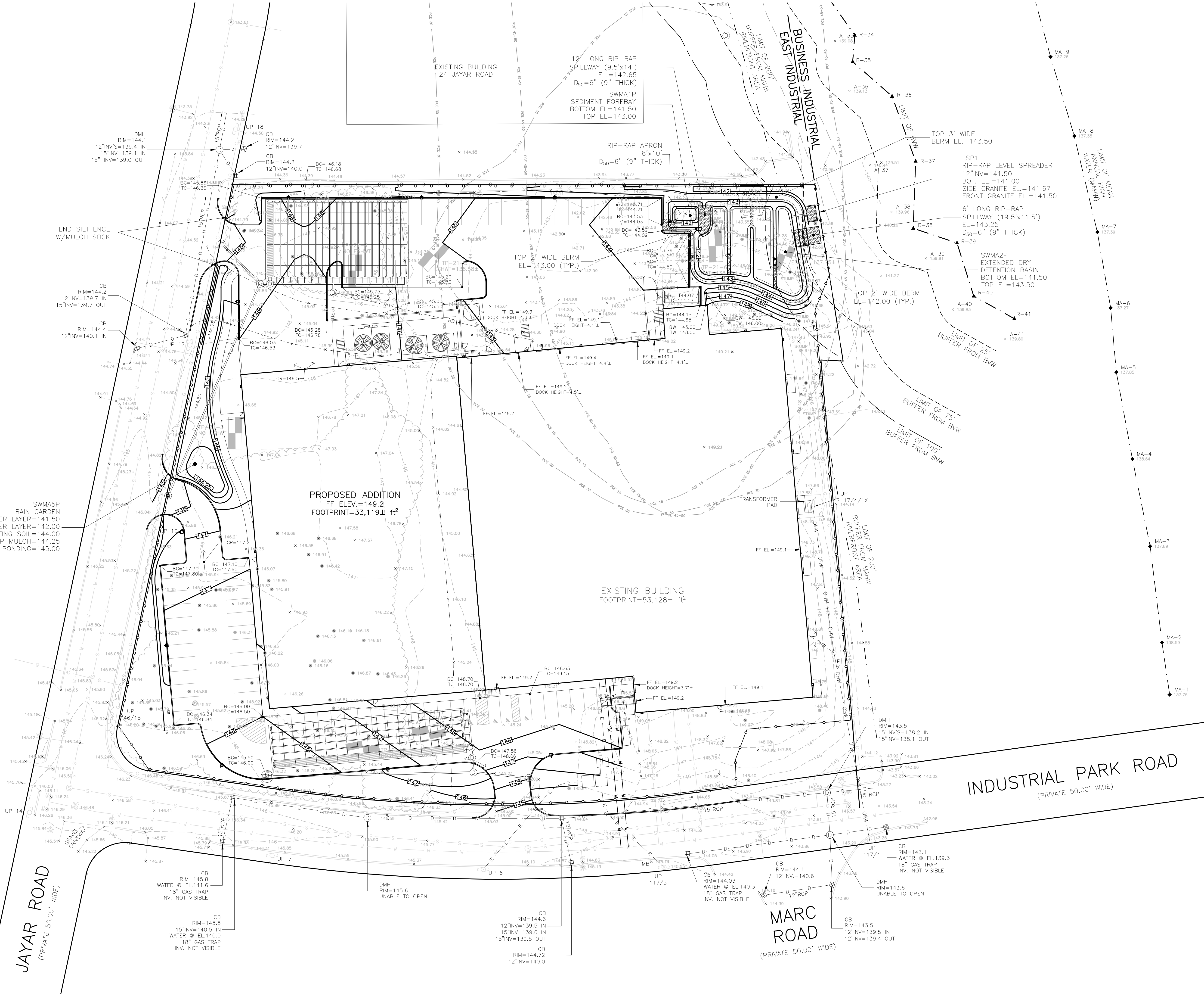
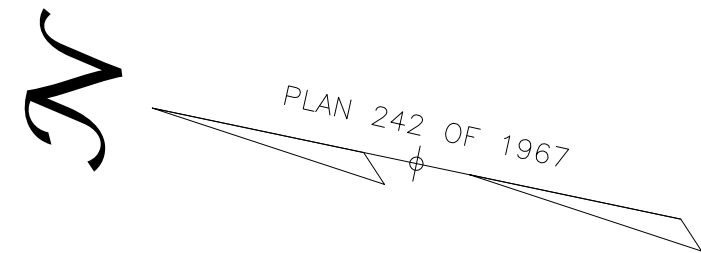






LEGEND OF SYMBOLS

EXISTING CONTOUR	--- 144 ---
EXISTING INDEX CONTOUR	--- 140 ---
EXISTING SPOT ELEVATION	x 140.26
EXISTING DRAIN	— D — D — D —
EXISTING DRAIN MANHOLE	⊙
EXISTING CATCH BASIN	⊞
EXISTING SEWER	— S — S — S —
EXISTING SEWER MANHOLE	⊙
EXISTING WATER	— W — W — W —
EXISTING WATER GATE	⊙ W ⊙
EXISTING HYDRANT	⊙
EXISTING UTILITY POLE	⊙
EXISTING IRRIGATION CONTROL VALVE	⊙ V
EXISTING MONITORING WELL	— MW —
EXISTING PAINTED GAS	⊙
EXISTING OVERHEAD WIRES	— OHW — OHW —
EXTENT OF PCE GROUNDWATER PLUME 15'	— PCE 15 —
EXTENT OF PCE GROUNDWATER PLUME 30'	— PCE 30 —
EXTENT OF PCE GROUNDWATER PLUME 45'-50'	— PCE 45-50 —
EXTENT OF ESTIMATED PLUME	— — —
EXISTING CURB	BBIT
EXISTING FENCE	X
EXISTING EDGE OF PAVEMENT	EP
PROPOSED CONTOUR	144
PROPOSED FILT FENCE	⊙ — ⊙ — ⊙ —



GRADING & DRAINAGE PLAN  
INDUSTRIAL PARK ROAD

6 INDUSTRIAL PARK ROAD, MEDWAY, MA

DRAWING: C3.1

SHEET 4 OF 12

0' 15' 30' 60'

SCALE: 1"=30'

APRIL 1, 2021

Town comments / Peer Review

12	11	10	9	8	7
6	5	4	3	2	1

SEAL

Designed By: MEM  
Drawn By: MEM  
Reviewed By: CPS  
Project Manager: CPS  
Job File Number: MEDW-0017  
Drawing File Folder: MEDW17

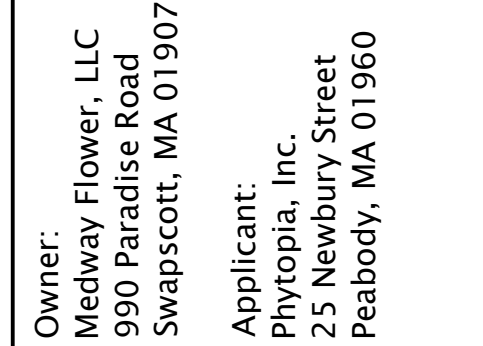
Owner:  
Medway Flower, LLC  
990 Paradise Road  
Swampscott, MA 01907

Applicant:  
Phytopia, Inc.  
25 Newbury Street  
Peabody, MA 01960





1. THE UTILITIES SHOWN ARE THE RESULT OF AN ACTUAL INSTRUMENT SURVEY PERFORMED BY WILLIAMS & SPARGUES LLC. NO REPRESENTATION OR WARRANTY IS MADE AS TO THE ACCURACY OF THE LOCATION OR PRESENCE OF SUBSURFACE UTILITIES, AND THOSE UTILITIES SHOWN SHOULD BE CONSIDERED APPROXIMATE.
2. ALL UTILITIES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION AND SHALL NOTIFY THE OWNER'S REPRESENTATIVE IF EXISTING CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN THAT WILL PREVENT THE PROPOSED WORK FROM BEING COMPLETED AS INTENDED.
3. ANY EXISTING CONSTRUCTION OR COLLISION MAY ARISE BETWEEN AN EXISTING UTILITY AND PROPOSED WORK. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING FOR RESOLUTION OF THE CONFLICT.
4. CONTRACTOR TO CALL DIGSAFE PRIOR TO CONSTRUCTION (411), TO UPDATE TICKET AND/OR VERIFY TICKET VALIDATION. DIGSAFE TICKET IS VALID 30 DAYS FROM THE DATE OF ISSUE. BEYOND THIS POINT, TICKETS ARE VALID INDEFINITELY, PROVIDED THAT 1) THE MARKS ARE MAINTAINED, AND 2) THE WORK IS CONTINUOUS.
5. THE PROPOSED WATER CONDUCTION SIZE, VELOCITY & LOCATION ARE TO BE DESIGNED IN ACCORDANCE WITH 148 CMR 1.00. UNIFORM RATE OF FLOW CODE.
6. ALL PROPOSED DRAIN PIPE ARE TO BE HDPE OR APPROVED EQUIVALENT UNLESS OTHERWISE SPECIFIED.
7. THE INSTALLATION OF DRAINAGE STRUCTURES, ESPECIALLY THE HDPE PIPE AND SUBSURFACE CHAMBERS, SHALL ADHERE STRICTLY TO THE MANUFACTURERS' INSTALLATION REQUIREMENTS TO MEET THE FOLLOWING REQUIREMENTS:
  - a. WHEN FEASIBLE, SEWERS WILL BE LAID AT A MINIMUM OF 1' TO 1.5' HORIZONTALLY, FROM ANY EXISTING OR PROPOSED WATER MAIN. SHOULD LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET TO A WATER MAIN THE SEWER MAIN WILL BE LAID IN A SEPARATE TRENCH AND THE ELEVATION OF THE CROWN OF THE SEWER PLACED AT LEAST 18" INCHES BELOW THE INVERT OF THE WATER MAIN. WHEN A LATERAL CROSS IS REQUIRED, THE SEWER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST 18 INCHES BELOW THE WATER MAIN. WHEN IT IS IMPOSSIBLE TO OBTAIN HORIZONTAL OR VERTICAL SEPARATION AS STIPULATED ABOVE, BOTH THE WATER MAIN AND SEWER SHOULD BE ENCASED IN CONCRETE FOR 10 FEET EITHER SIDE OF THE CROSSING.
8. THE APPLICANT SHALL COORDINATE WITH THE MIDDLEWAY WATER DIVISION TO ENSURE PROPER DOMESTIC AND FIRE FLOWS PRIOR TO BUILDING PERMIT.
9. PROPOSED CATCH BASINS TO BE FITTED WITH SILT SACK OR APPROVED ALTERNATE WHEN INSTALLED AND REMOVED AFTER FINAL PAVEMENT COURSE IS LAID.
10. DAILY WATER USAGE IS EXPECTED TO BE APPROXIMATELY 2,000 gpd.
11. PROPOSED ELECTRICAL CONDUIT SHALL BE 1/2" OR 3/4" IN SIZE.
12. EXISTING ON SITE ELECTRIC SERVICE COMPONENTS, INCLUDING THE EXISTING TRANSFORMER PAD, UTILITY POLES AND OVERHEAD WIRES TO BE REMOVED.



Designed By: MEM	<input checked="" type="checkbox"/>	Drawing Issued for Review
Drawn By: MEM	<input type="checkbox"/>	Drawing Issued for Permit
Reviewed By: CPS	<input type="checkbox"/>	Drawing Issued for Construction
Project Manager: CPS		
Job File Number: MEDW-0017		
Drawing File Folder: MEDW17		

SEAL

**UTILITY PLAN**  
**INDUSTRIAL PARK ROAD**  
6 INDUSTRIAL PARK ROAD, MEDWAY, MA

1	6	12
2	5	11
3	4	10
4	3	9
5	2	8
6	1	7

APRIL 1 2021

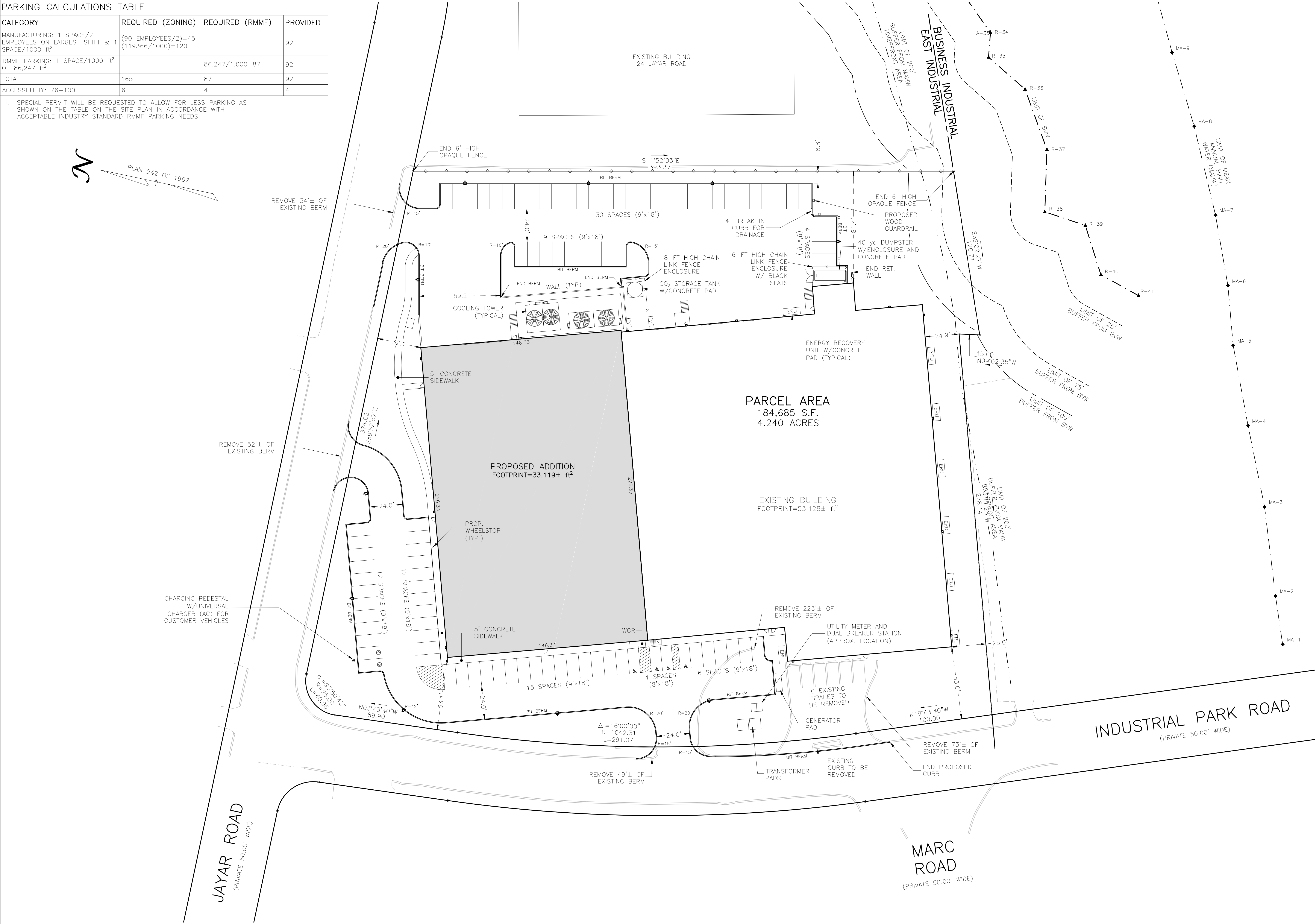
DRAWING: C4.1

SHEET 5 OF 12



PARKING CALCULATIONS TABLE			
CATEGORY	REQUIRED (ZONING)	REQUIRED (RMMF)	PROVIDED
MANUFACTURING: 1 SPACE/2 EMPLOYEES ON LARGEST SHIFT & 1 SPACE/1000 ft <sup>2</sup>	(90 EMPLOYEES/2)=45 (119366/1000)=120		92 <sup>1</sup>
RMMF PARKING: 1 SPACE/1000 ft <sup>2</sup> OF 86,247 ft <sup>2</sup>		86,247/1,000=87	92
TOTAL	165	87	92
ACCESSIBILITY: 76-100	6	4	4

1. SPECIAL PERMIT WILL BE REQUESTED TO ALLOW FOR LESS PARKING AS SHOWN ON THE TABLE ON THE SITE PLAN IN ACCORDANCE WITH ACCEPTABLE INDUSTRY STANDARD RMMF PARKING NEEDS.



Owner:  
Medway Flower, LLC  
990 Paradise Road  
Swampscott, MA 01907

Applicant:  
Phytopia, Inc.  
25 Newbury Street  
Peabody, MA 01960

Designed By: MEM  
Drawn By: MEM  
Reviewed By: CPS  
Project Manager: CPS  
Job File Number: MEDW-0017  
Drawing File Folder: MEDW17

☒ Drawing Issued for Review  
☐ Drawing Issued for Permit  
☐ Drawing Issued for Construction

SEAL

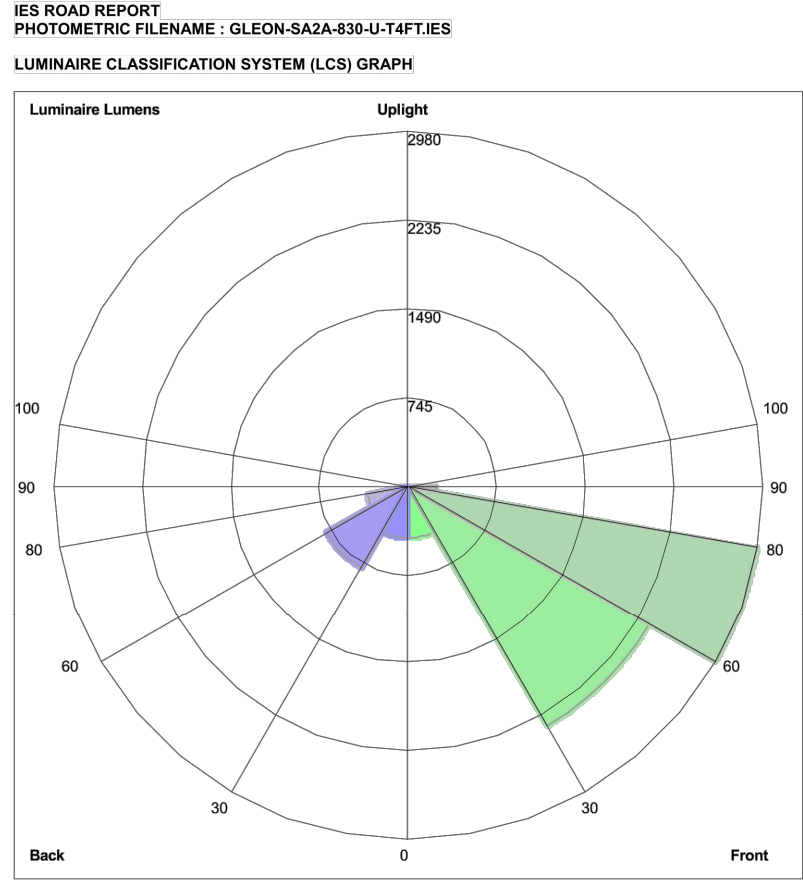
SURVEY & LAYOUT PLAN  
INDUSTRIAL PARK ROAD  
6 INDUSTRIAL PARK ROAD, MEDWAY, MA

12	11	10	9	8	7
6	5	4	3	2	1
Town comments / Peer Review					10/12/2021

0' 15' 30' 60'  
SCALE: 1"=30'  
APRIL 1, 2021

DRAWING: C5.1  
SHEET 6 OF 12

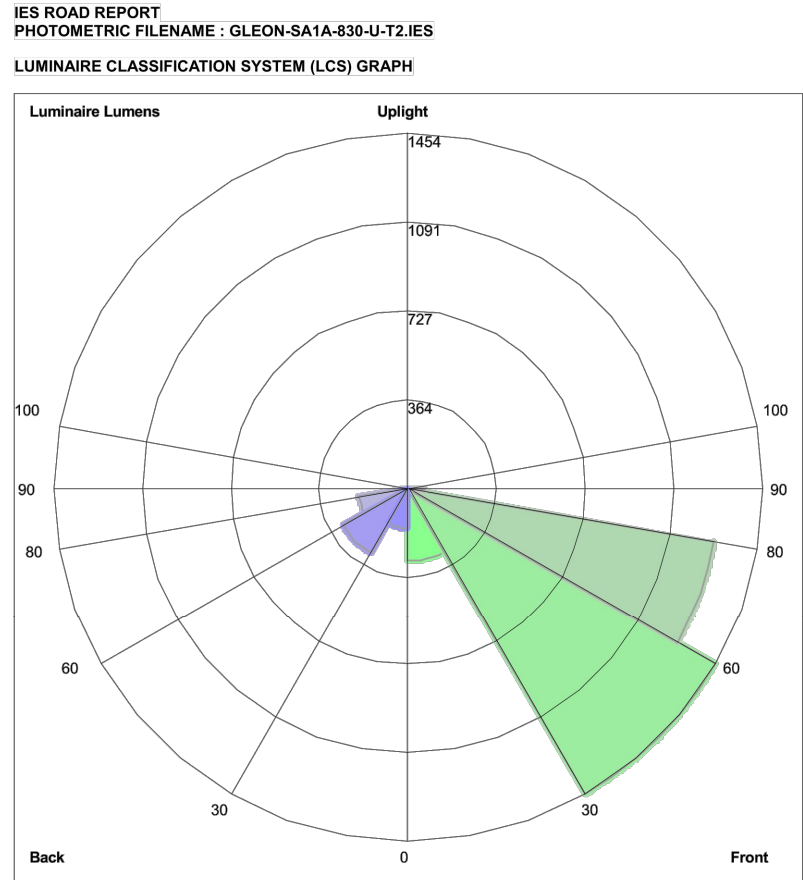




Luminaire Lumens:  
Front: Low=237.7, Medium=2337.2, High=2680.1, Very High=229.6  
Back: Low=229.6, Medium=787.6, High=351.9, Very High=58.7  
Uplight: Low=0.0, High=0.0  
BUG Rating: B1-UG-G3

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Calculations based on published IES Methods and recommendations, values rounded for display purposes.  
Results derived from content of manufacturer photometric file.

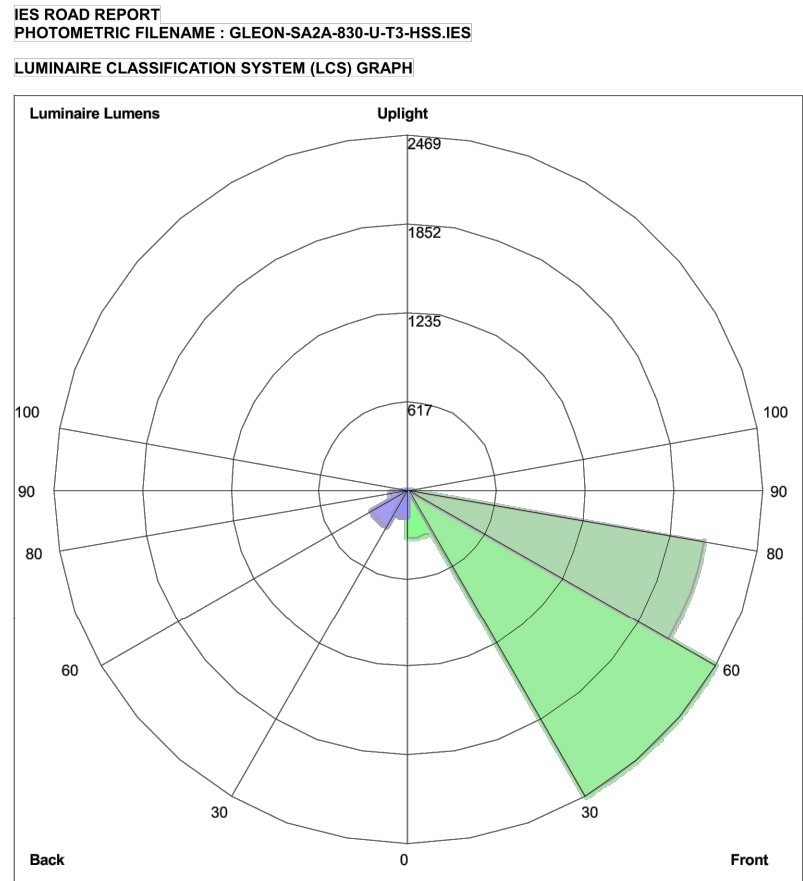
Page 1



Luminaire Lumens:  
Front: Low=288.0, Medium=1454.3, High=1275.0, Very High=69.3  
Back: Low=165.0, Medium=107.5, High=204.2, Very High=59.8  
Uplight: Low=0.0, High=0.0  
BUG Rating: B1-UG-G1

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Calculations based on published IES Methods and recommendations, values rounded for display purposes.  
Results derived from content of manufacturer photometric file.

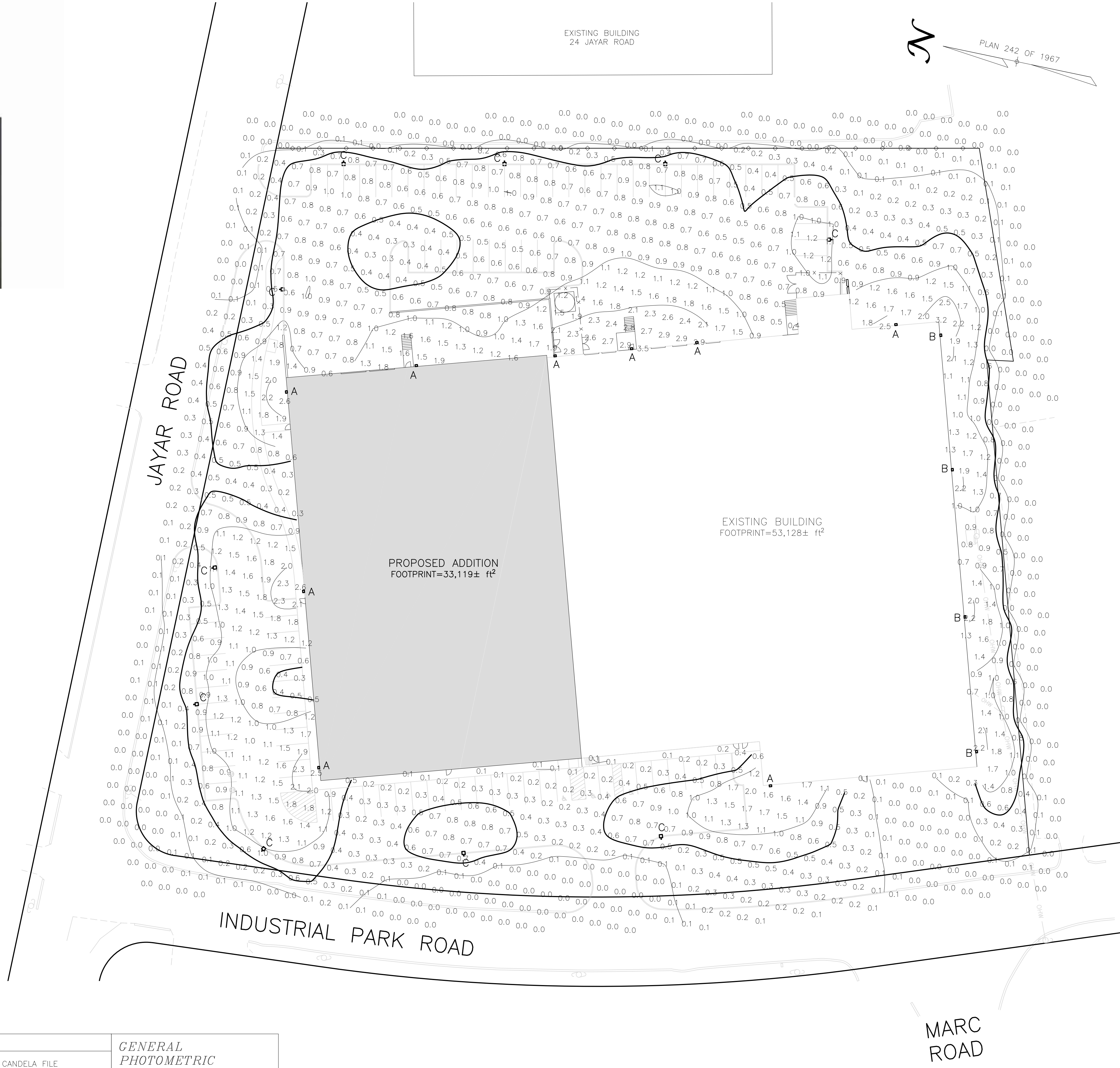
Page 1



Luminaire Lumens:  
Front: Low=333.8, Medium=2469.4, High=2090.8, Very High=22.5  
Back: Low=191.4, Medium=260.4, High=123.3, Very High=0.4  
Uplight: Low=0.0, High=0.0  
BUG Rating: B1-UG-G2

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Calculations based on published IES Methods and recommendations, values rounded for display purposes.  
Results derived from content of manufacturer photometric file.

Page 1



#### LUMINAIRE SCHEDULE

#### GENERAL PHOTOMETRIC SCHEDULE

SYMBOL	LABEL	QUANTITY	CATALOG NUMBER McGRAW-EDISON	DESCRIPTION	LAMP	TILT	LLF	CANDELA FILE
	A	9	GLEON GALLEON LED GLEON-SA2A-830-U-T4FT (FINISH & ELECTRICAL TO BE SPECIFIED BY OTHERS)	FORWARD THROW OPTICS 80 CRI 20' MOUNTING HEIGHT (WALL MOUNTED)	3000K 7621 LUMENS PER LAMP	0°	0.85	GLEON-SA2A-830-U-T4FT.ies
	B	4	GLEON GALLEON LED GLEON-SA1A-830-U-T2 (FINISH & ELECTRICAL TO BE SPECIFIED BY OTHERS)	TYPE 2 OPTICS 80 CRI 10' MOUNTING HEIGHT (WALL MOUNTED)	3000K 3804 LUMENS PER LAMP	0°	0.85	GLEON-SA1A-830-U-T2.ies
	C	10	GLEON GALLEON LED GLEON-SA2A-830-U-T3-HSS (FINISH & ELECTRICAL TO BE SPECIFIED BY OTHERS)	TYPE 3 OPTICS 80 CRI 20' MOUNTING HEIGHT (POLE MOUNTED)	3000K 5522 LUMENS PER LAMP	0°	0.85	GLEON-SA2A-830-U-T3-HSS.ies

#### NOTES:

- SECURITY LIGHTING TO BE DETERMINED.
- ILLUMINANCE VALUES CREATED FROM MANUFACTURERS PHOTOMETRIC DATA.
- ILLUMINANCE VALUES SHOWN REPRESENT HORIZONTAL FOOTCANDLES AT GROUND LEVEL.
- FOOT CANDLE VALUES SHOWN DO NOT ACCOUNT FOR LIGHT REFLECTION, EXISTING LIGHT SOURCES, SLOPING GRADE OR EXISTING OR PROPOSED THREE DIMENSIONAL OBJECTS.

#### PHOTOMETRIC PLAN INDUSTRIAL PARK ROAD 6 INDUSTRIAL PARK ROAD, MEDWAY, MA

0' 15' 30' 60'  
SCALE: 1"=30'

APRIL 1, 2021

DRAWING: C6.1  
SHEET 7 OF 12

SEAL

Designed By: MEM  
Drawn By: MEM  
Reviewed By: CPS  
Project Manager: CPS  
Job File Number: MEDW-0017  
Drawing File Folder: MEDW17  
☒ Drawing Issued for Review  
☐ Drawing Issued for Permit  
☐ Drawing Issued for Construction

Owner:  
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990 Paradise Road  
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Applicant:  
Phytocopia, Inc.  
25 Newbury Street  
Peabody, MA 01960











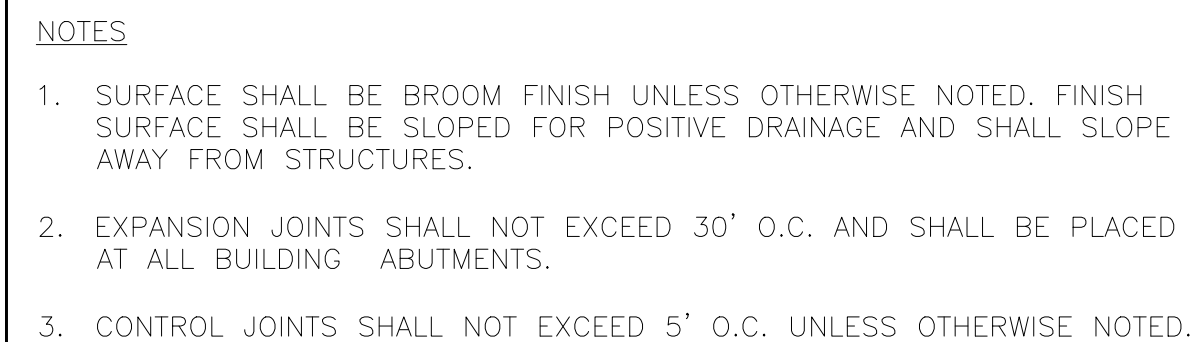
CONCRETE SIDEWALK  
(BUILDING PERIMETER)  
NOT TO SCALE



TRENCH FOR GRAVITY PIPE  
(NOT TO SCALE)



WHEELCHAIR RAMP  
NOT TO SCALE



CONCRETE WALKWAY  
(NOT TO SCALE)




1. MAXIMUM HEIGHT NON REINFORCED WALLS IN SILTY CLAY (SOIL FRICTION ANGLE = 28°) IS 10'8", 9'4", AND 5'5" FOR 45°, 39°, AND 24° BLOCKS. TALLER WALLS BUILT WITH GOE-GRID OR SET-BACK EFFECT.
2. CONCRETE: 3,000 PSI MINIMUM AFTER 28 DAYS.
3. 1" SETBACK PER ROW ON A STRAIGHT WALL (ANGLE OF BATTER 3.6°) CURVED WALL 1-2.7" PER ROW.
4. CORNER BLOCK CUT FOR USE ON LEFT AND RIGHT SIDE.
5. WALLS ABOVE 4' IN HEIGHT REQUIRE A BUILDING PERMIT.

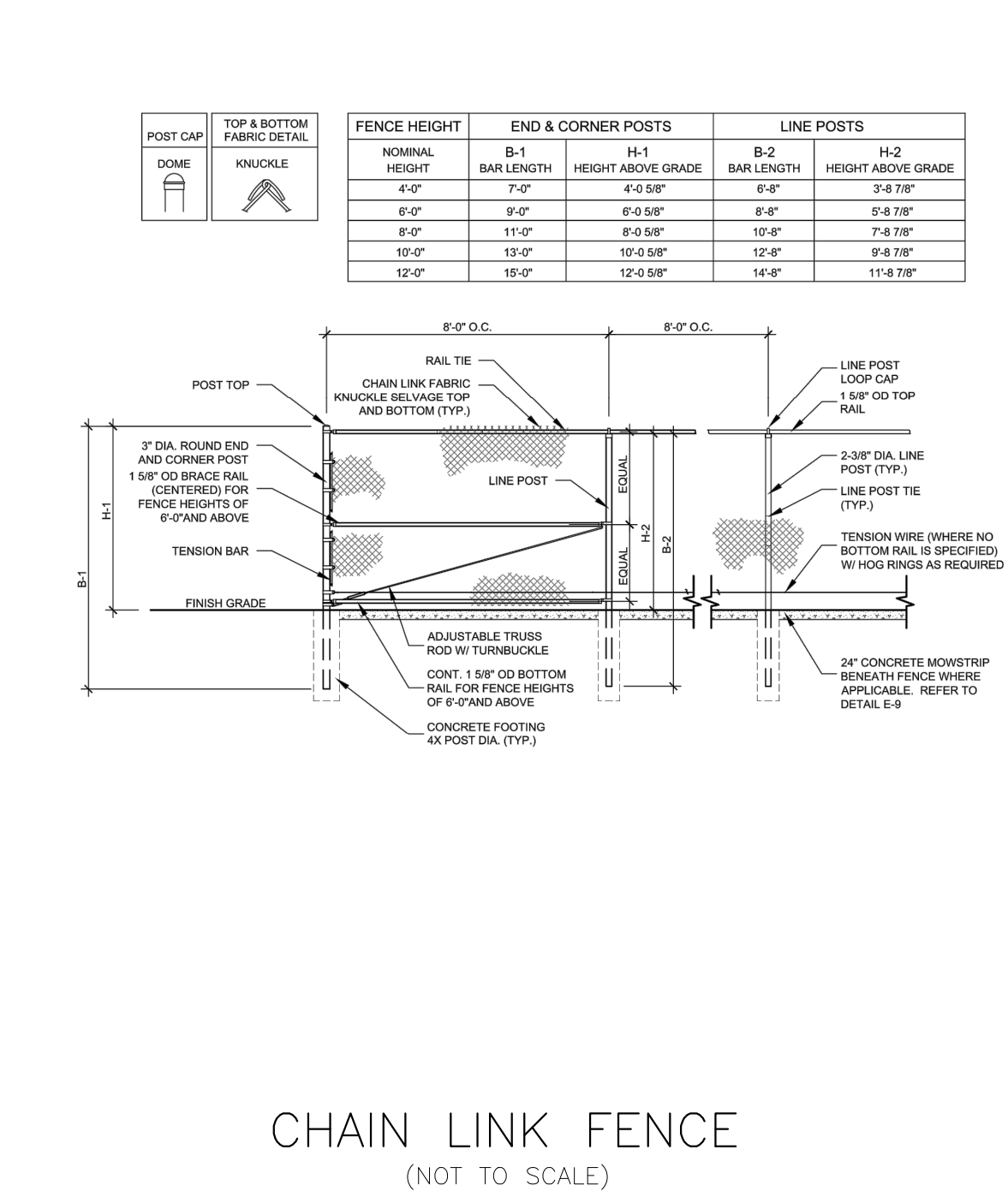
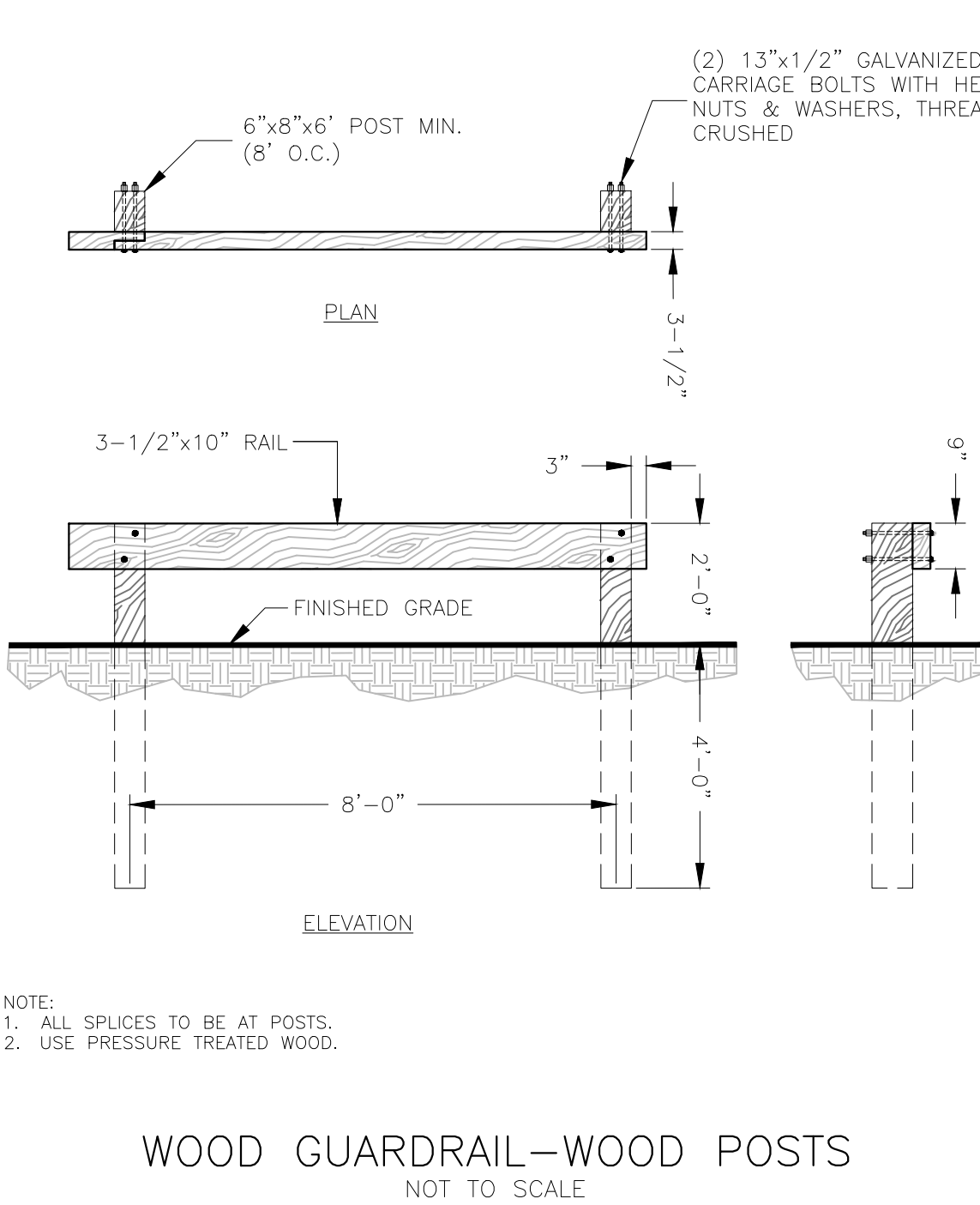
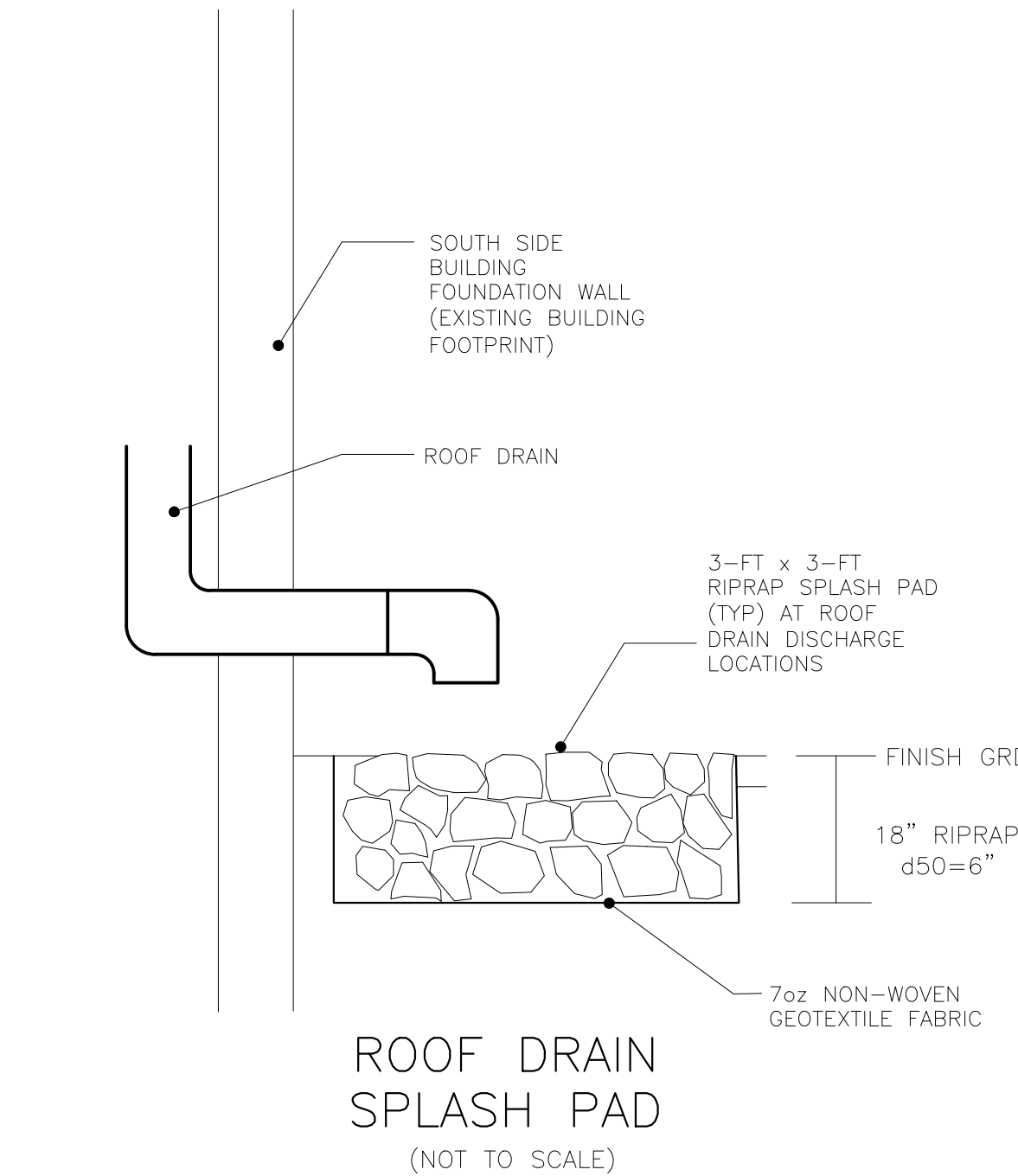
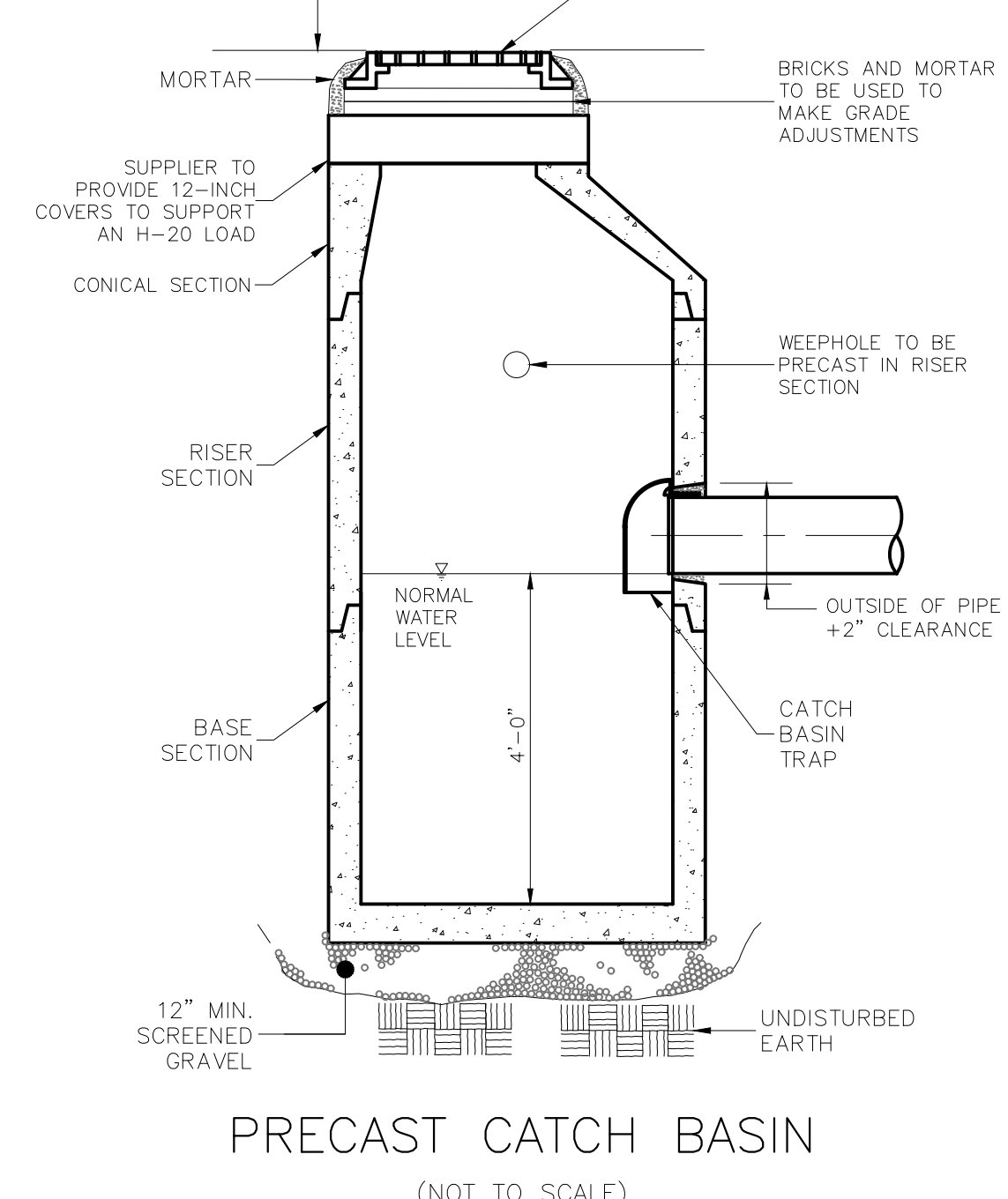
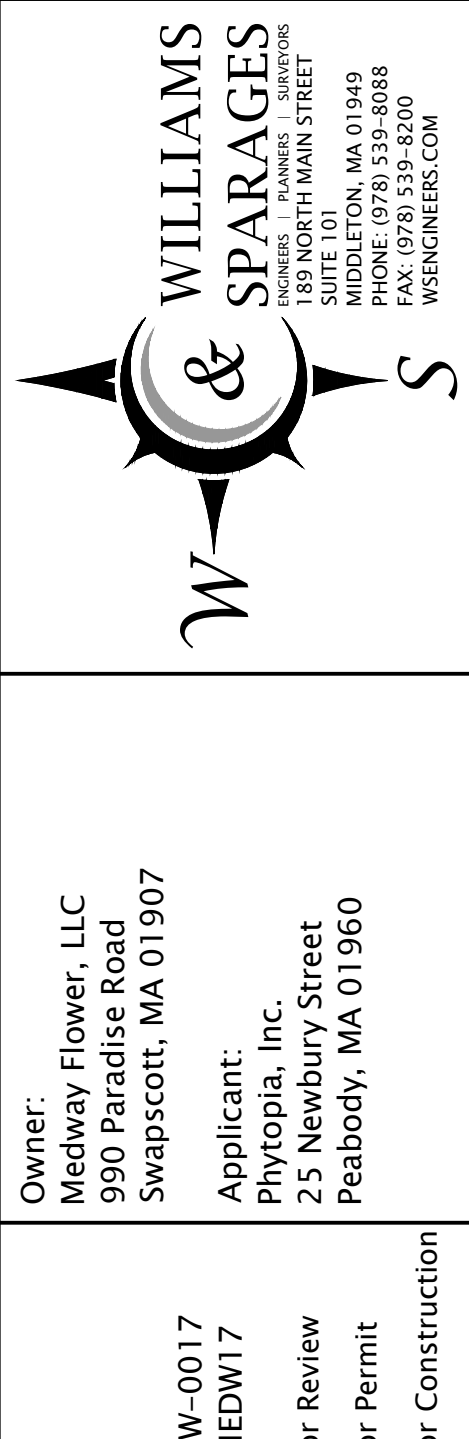
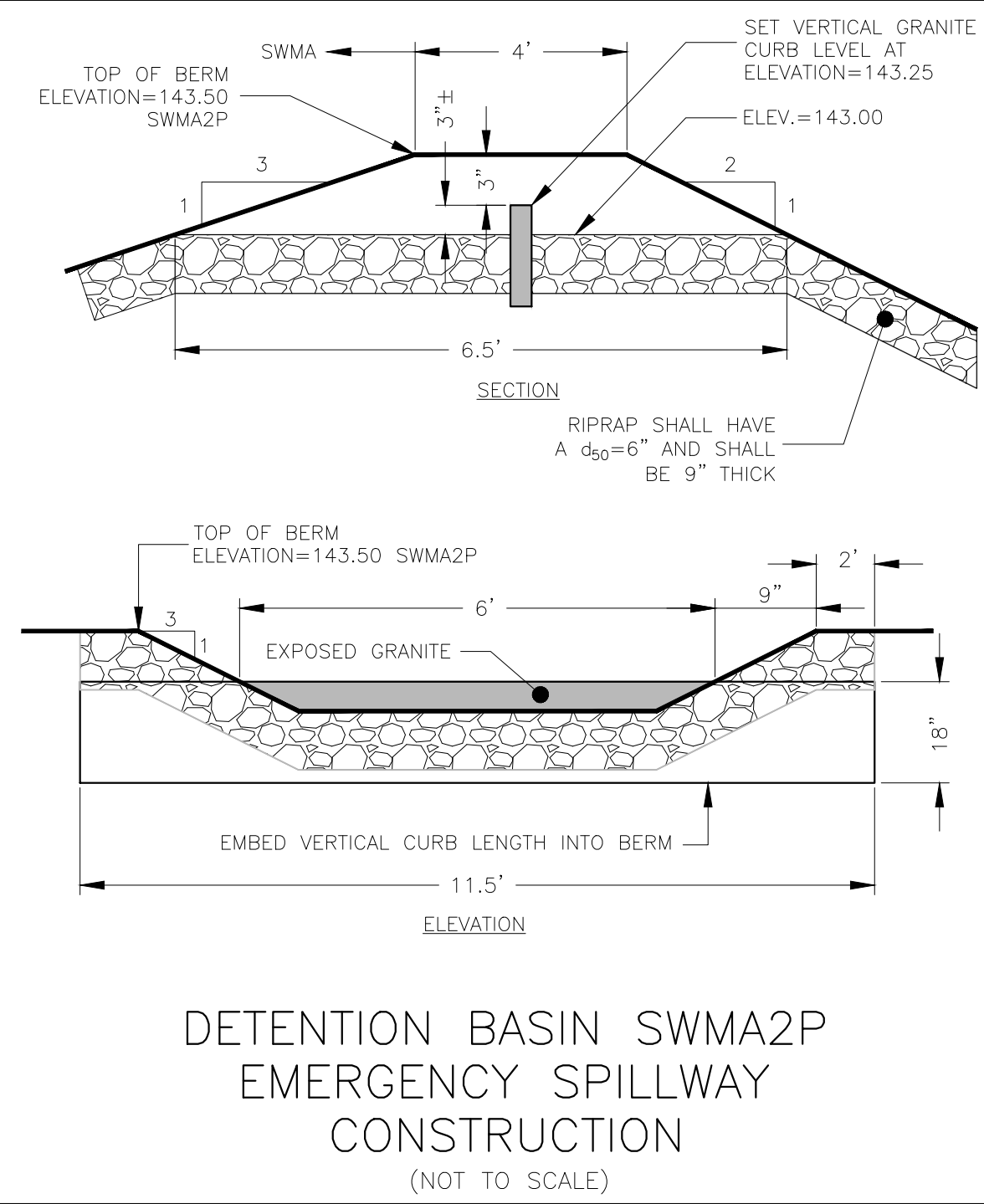
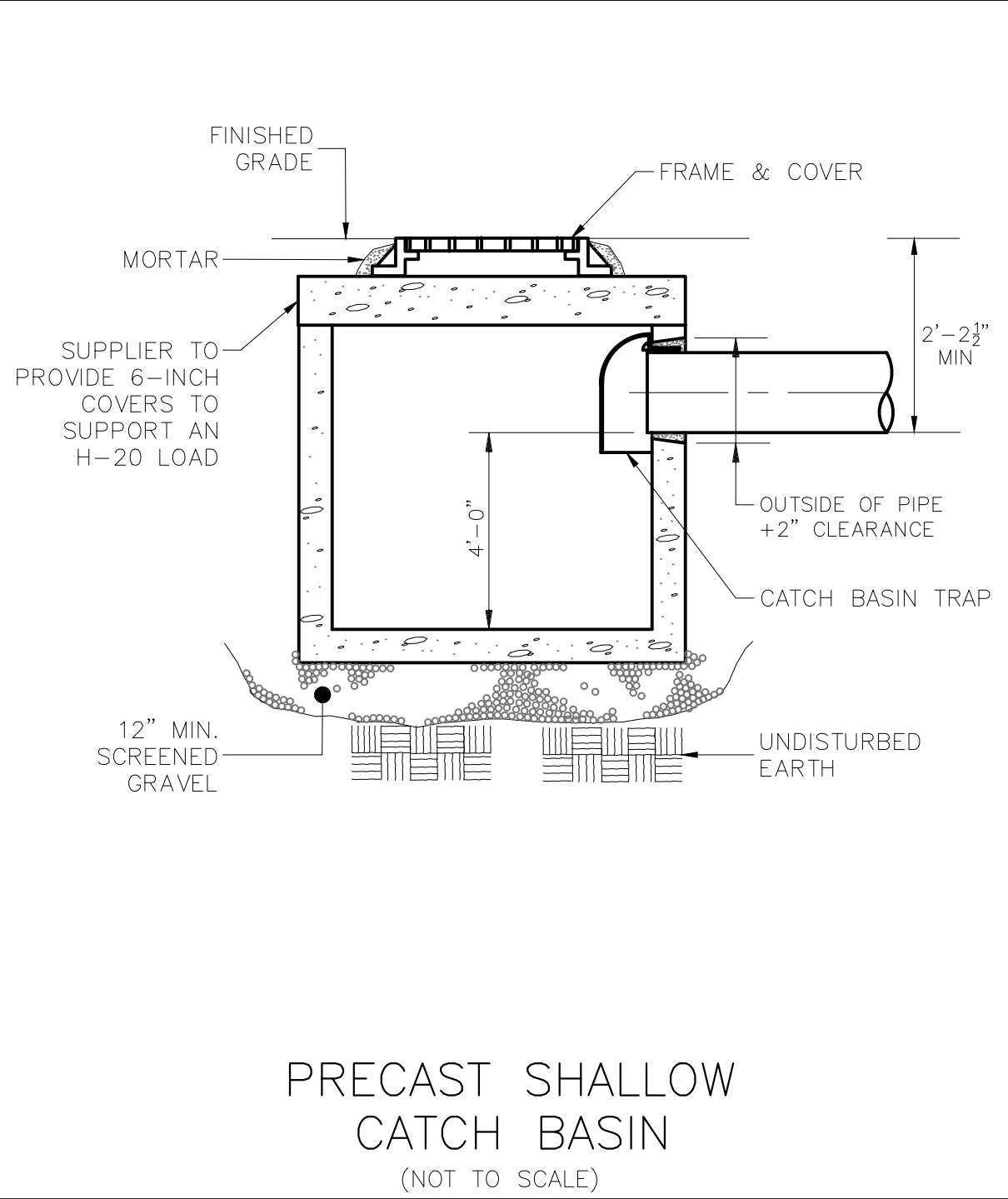


- NOTES:
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
  2. REINFORCED STEEL CONFORMS TO LATEST ASTM A185 SPEC. 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.
  3. H-20 DESIGN LOADING PER AASHTO HS-20-44; ASTM C478 SPEC FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."



<h1>CONSTRUCTION DETAILS PLAN</h1> <h2>INDUSTRIAL PARK ROAD</h2> <p>6 INDUSTRIAL PARK ROAD, MEDWAY, MA</p>		<p>SEAL</p>		<p>Designed By: MEM          Drawn By: MEM          Reviewed By: CPS          Project Manager: CPS          Job File Number: MEDW-0017          Drawing File Folder: MEDW17</p> <p> <input checked="" type="checkbox"/> Drawing Issued for Review  <input type="checkbox"/> Drawing Issued for Permit  <input type="checkbox"/> Drawing Issued for Construction       </p>		<p>Owner:          Medway Flower, LLC          990 Paradise Road          Swapscott, MA 01907</p> <p>Applicant:          Phytopia, Inc.          25 Newbury Street          Peabody, MA 01960</p>		 <p><b>WILLIAMS &amp; SPARAGES</b>          FOUNDERS • PLANNERS • DESIGNERS          SUITE 101          MIDDLETON, MA 01949          PHONE: (978) 539-8888          FAX: (978) 539-8860          WWW.WENGINTEERS.COM</p>											
<p>DRAWING: C8.1</p>		<p>SCALE: NONE</p> <table border="1"> <tr><td>6</td><td>12</td></tr> <tr><td>5</td><td>11</td></tr> <tr><td>4</td><td>10</td></tr> <tr><td>3</td><td>9</td></tr> <tr><td>2</td><td>8</td></tr> <tr><td>1</td><td>Town comments / Peer Review</td></tr> </table>		6	12	5	11	4	10	3	9	2	8	1	Town comments / Peer Review	<p>APRIL 1, 2021</p>		<p>10/12/2021</p>	
6	12																		
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2	8																		
1	Town comments / Peer Review																		
<p>SHEET 9 OF 12</p>																			





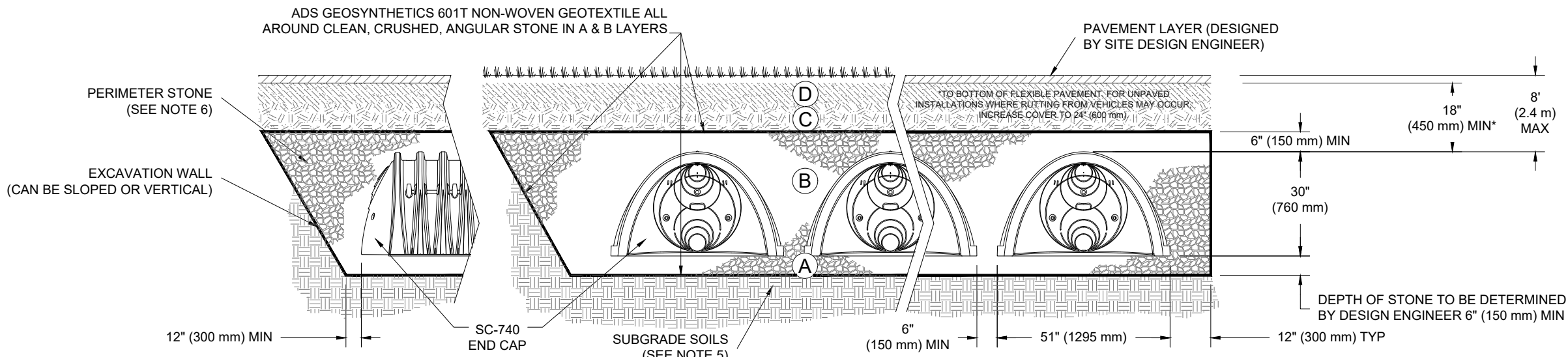
CONSTRUCTION DETAILS PLAN INDUSTRIAL PARK ROAD 6 INDUSTRIAL PARK ROAD, MEDWAY, MA					SEAL	Designed By: MEM Drawn By: MEM Reviewed By: CPS Project Manager: CPS Job File Number: MEDW-0017 Drawing File Folder: MEDW17	
DRAWING: C8.2	SCALE: NONE				6	12	
					5	11	
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APRIL 1, 2021							
SHEET 10 OF 12							
					<input checked="" type="checkbox"/>	Drawing Issued for Review	
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					<input type="checkbox"/>	Drawing Issued for Construction	



ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 <sup>1</sup> A-1, A-2-4, A-3 OR AASHTO M43 <sup>1</sup> 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 76, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43 <sup>1</sup> 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43 <sup>1</sup> 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. <sup>1</sup>

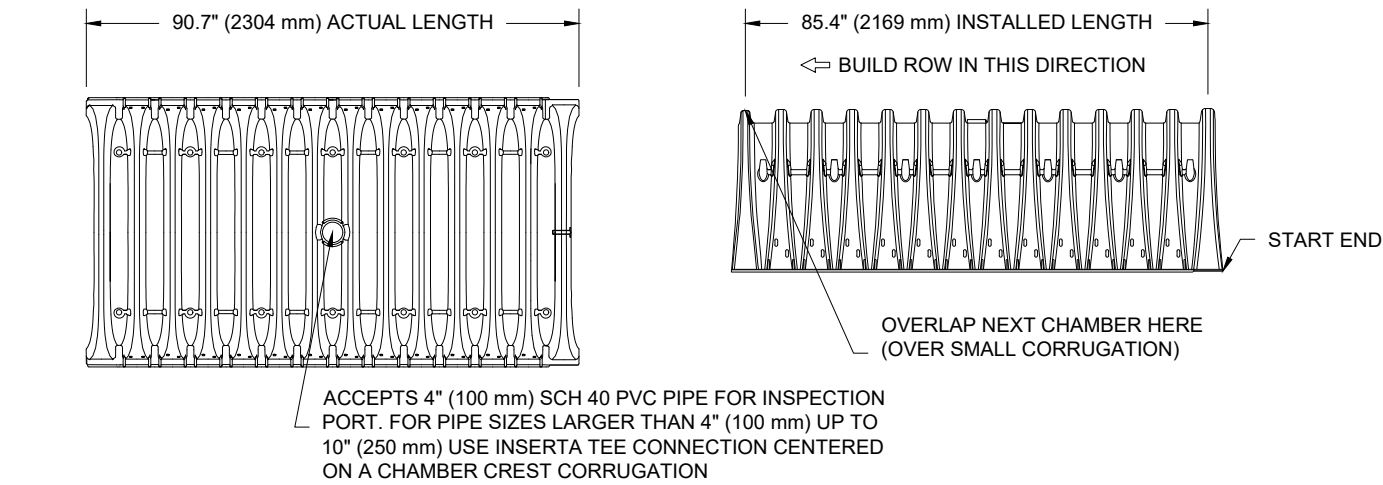
- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
  - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
  - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

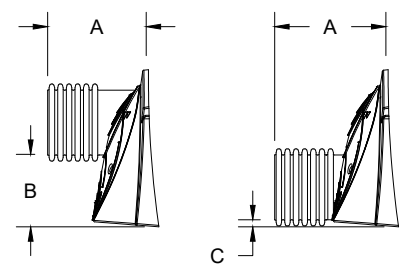
- SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2902 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL, FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL MATERIAL CAN BE USED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

STORMTECH SC-740 CROSS SECTION  
NOT TO SCALE



NOMINAL CHAMBER SPECIFICATIONS	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
SIZE (W X H X INSTALLED LENGTH)	45.9 CUBIC FEET (1.30 m³)	
CHAMBER STORAGE	74.9 CUBIC FEET (2.12 m³)	
MINIMUM INSTALLED STORAGE*	75.0 lbs. (33.6 kg)	

\*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"  
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	0.5" (13 mm)
SC740EPE08B / SC740EPE08BPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	0.6" (15 mm)
SC740EPE08T / SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	0.6" (15 mm)
SC740EPE08B / SC740EPE08BPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	0.7" (18 mm)
SC740EPE10B / SC740EPE10BPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	0.7" (18 mm)
SC740EPE12B / SC740EPE12BPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	0.7" (18 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	1.3" (33 mm)
SC740EPE15B / SC740EPE15BPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	1.6" (41 mm)
SC740EPE18B / SC740EPE18BPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

\*FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

STORMTECH SC-740  
TECHNICAL SPECIFICATIONS  
NOT TO SCALE

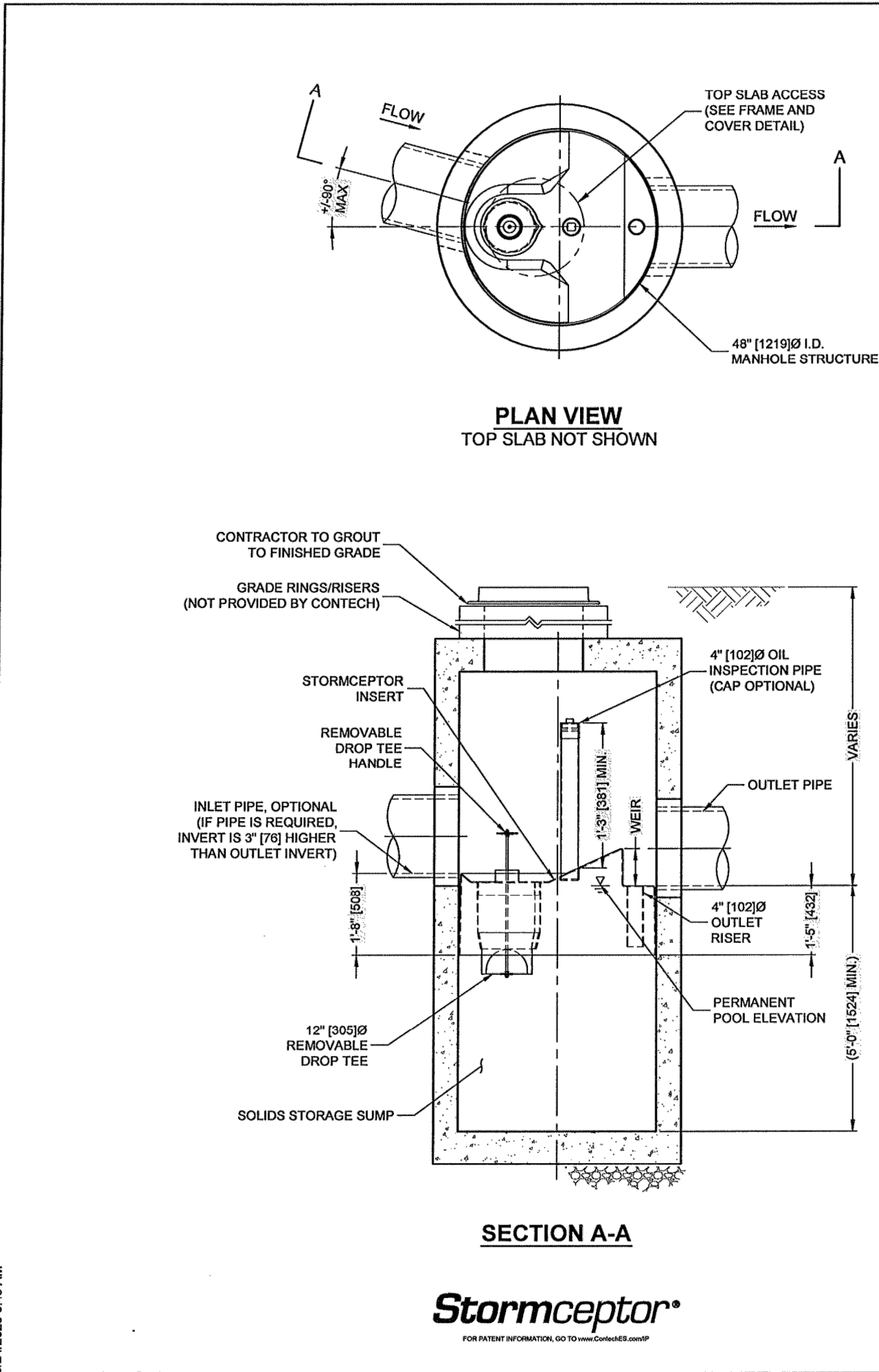
INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATER ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
- A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
- A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
- A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
- A.4. LOWER A CAMERA INTO ISOLATER ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
- A.5. IF SEDIMENT IS AT OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATER PLUS ROWS
- B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATER ROW PLUS
- B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATER ROW PLUS THROUGH OUTLET PIPE
- i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
- ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
- IF SEDIMENT IS AT OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATER ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CURVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS, RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

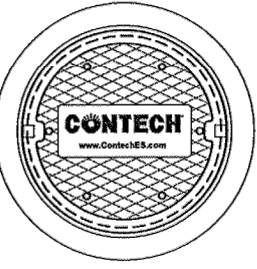
NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

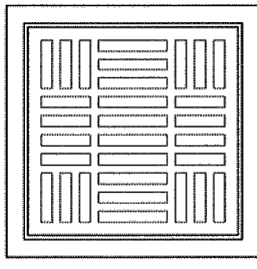
1: STORMWATERURSDICTIONS\ASAMA, SEE DESIGN TOOLS, STANDARD DETAILS\STORMCEPTOR\STC450I.DWG



STORMCEPTOR DESIGN NOTES
THE STANDARD STC450I CONFIGURATION WITH ROUND, SOLID FRAME AND COVER, AND INLET PIPE IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.
STORMCEPTOR STC450I RATED TREATMENT CAPACITY IS 0.40 CFS, OR PER LOCAL REGULATIONS
CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES



FRAME AND COVER  
(MAY VARY)  
NOT TO SCALE

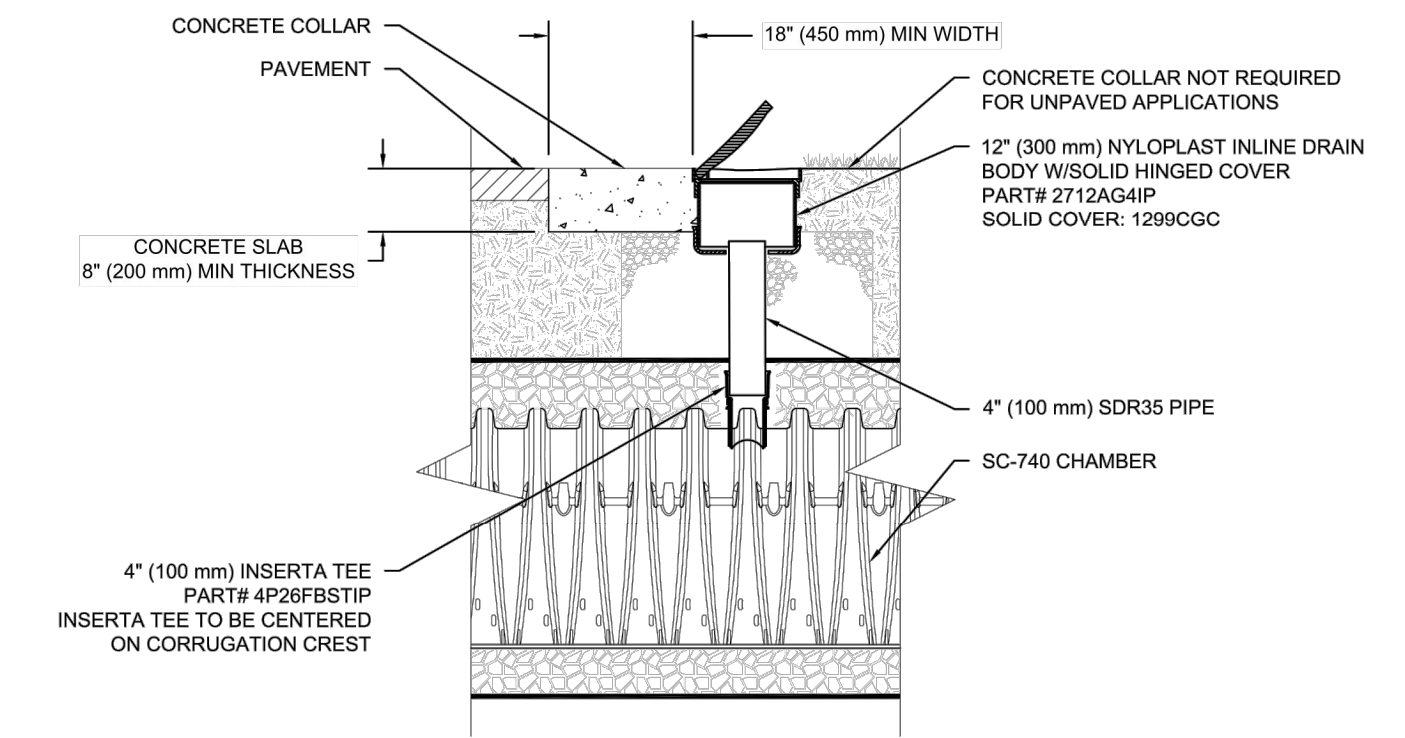


FRAME AND GRATE  
(MAY VARY)  
NOT TO SCALE

- GENERAL NOTES
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  - FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. [www.contechES.com](http://www.contechES.com)
  - STORMCEPTOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
  - STORMCEPTOR STRUCTURE SHALL MEET AASHTO H2020 LOAD RATING, ASSUMING EARTH COVER OF 6' - 2' (1810), AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M200 AND BE CAST WITH THE CONTECH LOGO.
  - STORMCEPTOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
  - ALTERNATE UNITS ARE SHOWN IN MILLIMETERS (mm).
- INSTALLATION NOTES
- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMCEPTOR MANHOLE STRUCTURE.
- C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
- E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.



STC450i  
STORMCEPTOR  
STANDARD DETAIL



STORMTECH SC-740  
INSPECTION PORT  
NOT TO SCALE

CONSTRUCTION DETAILS PLAN  
INDUSTRIAL PARK ROAD  
6 INDUSTRIAL PARK ROAD, MEDWAY, MA

SCALE: NONE	6	5	4	3	2	1	Town comments / Peer Review	10/12/2021	7
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DRAWING: C8.3

SHEET 11 OF 12



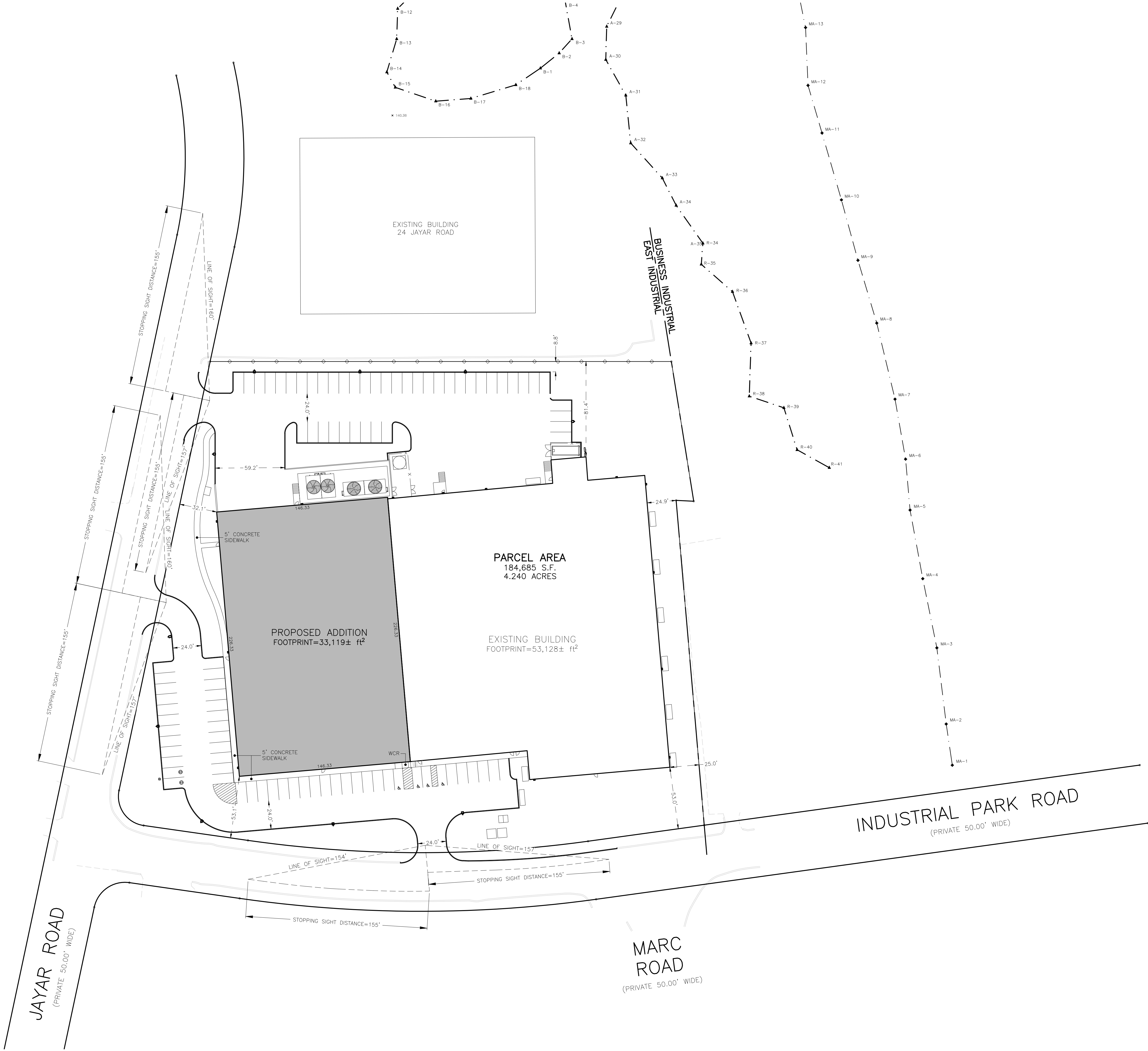
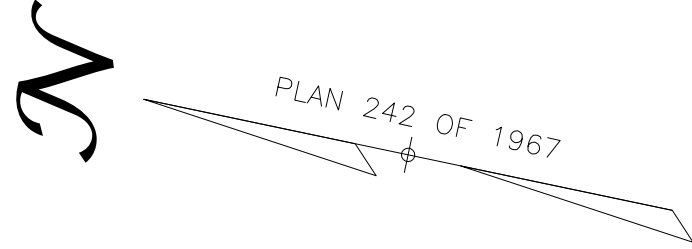
Owner:  
Medway Flower, LLC  
990 Paradise Road  
Swampscott, MA 01907

Applicant:  
Phytopia, Inc.  
25 Newbury Street  
Peabody, MA 01960

Designed By: MEM  
Drawn By: MEM  
Reviewed By: CPS  
Project Manager: CPS  
Job File Number: MEDW-0017  
Drawing File Folder: MEDW17

Drawing Issued for Review  
Drawing Issued for Permit  
Drawing Issued for Construction





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☒ Drawing Issued for Review  
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SEAL

STOPPING SIGHT DISTANCE PLAN  
INDUSTRIAL PARK ROAD

6 INDUSTRIAL PARK ROAD, MEDWAY, MA

0' 15' 30' 60'

SCALE: 1"=30'

OCTOBER 1, 2021

DRAWING: C9.1

SHEET 12 OF 12

6	12				
5	11				
4	10				
3	9				
2	8				
1	7				
Town comments / Peer Review		10/12/2021			



### **Board Members**

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



Medway Town Hall  
155 Village Street  
Medway, MA 02053  
Phone (508) 533-3291  
Fax (508) 321-4987  
Email: [planningboard@townofmedway.org](mailto:planningboard@townofmedway.org)  
[www.townofmedway.org](http://www.townofmedway.org)

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

Revised draft - October 22, 2021

***Recreational Adult Use Marijuana Special Permit  
Non-Retail Registered Medical Marijuana Facility Special Permit  
with Conditions***

**Decision Date:** \_\_\_\_\_

**Name/Address of Applicant/Permittee**

Phytopia, Inc.  
25 Newbury Street  
Peabody, MA 01960

**Name/Address of Property Owner:**

Medway Flower, LLC  
990 Paradise Road  
Swampscott, MA 01907

**Location:** 6 Industrial Park Road

**Assessors' Reference:** 33 – 004

**Zoning District:** West Industrial

**Site Plan:** *Industrial Park Road*, dated April 1, 2021, last revised October 12, 2021, prepared by William Sparages Engineers, Planners and Surveyors of Middleton, MA. The architectural drawings dated April 6, 2021 were prepared by Anderson Porter Design of Cambridge, MA.



**I. PROJECT DESCRIPTION** - The Applicant seeks a Recreational (Adult Use) Marijuana Establishment special permit and a Non-Retail Registered Medical Marijuana Facility special permit pursuant to Sections 8.9 and 8.10 of the Medway *Zoning Bylaw* for a proposed marijuana cultivation and processing facility at 6 Industrial Park Road. NOTE – The Applicant has also applied to the Planning and Economic Development Board for Major Site Plan Approval, a Reduced Parking Special Permit, and a Groundwater Protection Special Permit. However, this decision does not pertain to those three applications which are still pending. The property also includes wetlands resources which are under the jurisdiction of the Medway Conservation Commission for an Order of Conditions and a Land Disturbance Permit.

The Applicant proposes to use the existing 53,128 sq. ft. industrial manufacturing building at 6 Industrial Park Road and construct a 2-story addition (total of 66,238 sq. ft.) to the existing building for the cultivation, manufacturing, processing, and packaging of marijuana for medical use and adult recreational use and the delivery of such products off site to retail marijuana establishments in other communities. A retail marijuana operation at this location is NOT proposed.

The planned scope of work includes interior renovations to the existing building, construction of the addition, improvements to the access/egress driveways, installation of curbing, parking area improvements, landscaping, lighting, installation of and improvements to stormwater drainage facilities, and remediation of site contamination by the previous owner. The planned work is shown on a plan titled *Industrial Park Road*, dated April 1, 2021, last revised October 12, 2021, prepared by Williams & Sparages Engineers, Planners and Surveyors of Middleton, MA. The architectural drawings dated April 6, 2021 were prepared by Anderson Porter Design of Cambridge, MA.

The applicant has requested the Board to act on these two special permit applications separate from the related applications for Major Site Plan Approval, a Reduced Parking Special Permit, and a Groundwater Protection Special Permit. The Board's usual procedure is to review and act on all related applications together. As an accommodation to the Applicant, the Board has agreed to consider these two special permit applications separately, while the other applications are still pending.

**II. VOTE OF THE BOARD** – After reviewing the application and information gathered during the public hearing and review process, including statements of the Applicant and its representatives, comments offered by the public, and comments provided by the Board's consultants and Town staff, the Medway Planning and Economic Development Board, on \_\_\_\_\_, on a motion made by \_\_\_\_\_ and seconded by \_\_\_\_\_, voted to \_\_\_\_\_ with CONDITIONS as specified herein a special permit to operate a Recreational (adult use) Marijuana Establishment and a Non-Retail Registered Medical Marijuana Facility at 6 Industrial Park Road in Medway, MA.

The vote was \_\_\_\_\_ by a vote of \_\_\_\_ in favor and \_\_\_\_ opposed.

**Planning & Economic Development Board Member**

**Vote**

Jessica Chabot  
Richard Di Iulio  
Matthew Hayes  
Andy Rodenhiser  
Robert Tucker



### **III. PROCEDURAL HISTORY**

- A. May 12, 2021 – Marijuana special permits application filed with the Board; filed with the Town Clerk on May 19, 2021
- B. May 19, 2021– Public hearing notice filed with the Town Clerk and posted at the Town of Medway web site.
- C. May 19, 2021 - Public hearing notice mailed to abutters by certified sent mail.
- D. May 24 and June 1, 2021 - Public hearing notice advertised in *Milford Daily News*.
- E. June 8, 2021 - Public hearing commenced. The public hearing was continued to June 22, July 13, July 27, August 10, August 24, September 28, and October 26, 2021 and \_\_\_\_\_ when a decision was rendered.

### **IV. INDEX OF DOCUMENTS**

- A. The following documents were provided at the time the marijuana special permits application was filed with the Board:
  - Marijuana Special Permits application dated April 30, 2021 with Project Description (along with applications for major site plan review, reduced parking special permit, and a groundwater protection district special permit)
  - Phytotherapy Odor Control Approach, received May 12, 2021, prepared by BLW Engineers
  - 4-12-21 letter from Andy Carballeira, Acentech re: noise mitigation plan
  - 5-10-21 letter from Kevin Doherty of Knoll Environmental re: groundwater contamination
  - 4-9-21 Interest Disclosure Attestation for Phytopia
  - Site Plan dated 4-1-21 by William Sparages Engineers Planners and Surveyors of Middleton, MA
  - Parking Evaluation dated 5-12-21 from MDM Transportation Consultants
- B. During the course of the review, a variety of other materials were submitted to the Board by the Applicant and its representatives and consultants:
  - Parking memorandum from attorney Ted Cannon dated 7-8-21
  - Groundwater protection district special permit memorandum from attorney Ted Cannon dated 8-5-21
  - Noise Mitigation Plan by Acentech, updated 7-9-21
  - Letter from attorney Ted Cannon dated 7-22-21 in response to the 7-1-21 Tetra Tech parking and traffic review letter
  - Memorandum from Erik Gath, BLW Engineers, Inc. in response to the odor mitigation review letter dated 6-16-21 from Straughan Forensic
  - Email communication from Dan Dumais, MDM Transportation Consultants, dated 8-11-21 re: Fire Department's review of turning requirements on the site.
  - Updated site plan dated 10-12-21 by William Sparages Engineers Planners and Surveyors
  - Letter dated 10-12-21 to the PEDB from Chris Sparages to summarize site plan changes resulting from previous public hearings, consultant review letters, and



feedback from the PEDB, Design Review Committee and the Conservation Commission.

- Letter dated 10-12-21 to the PEDB from Chris Sparages in response to the June 8, 2021 technical letter from Tetra Tech.
- Email dated 10-18-21 from attorney Ted Cannon re: staff's request for information on the Applicant's policies/procedures for the transfer, acquisition, or sale of medical marijuana between approved RMMF's in compliance with 105 CMR 725.105(b) (2).

C. During the course of the review, a variety of other materials were submitted to the Board by the Board's consultants and Town staff:

- Plan review letter to the Board from Steve Bouley, P.E. Tetra Tech, dated 6-8-21
- Odor mitigation plan review letter from Bruce Straughan, Straughan Forensic dated 6-16-21
- Parking and Traffic Review letter to the Board from Courtney Sudak, P.E. Tetra Tech, dated 7-1-21
- Noise mitigation review letter to the Board from Jeff Komrower, Noise Control Engineering, dated 7-7-21
- Cultivation Facility Parking Guidelines Summary prepared by Tetra Tech, dated 7-13-21
- Email communication from Fire Chief Jeff Lynch dated 8-4-21 regarding Phytopia's security and emergency plans

D. Abutter Comments

- Email communication dated June 7, 2021 (with attachments) from resident John Lally, 35 Coffee Street
- Email communication dated June 21, 2021 (with attachments) from resident Leigh Knowlton, 14 Green Valley Road

E. Other Documentation

1. Mullins Rule Certification dated August 2, 2021 for Board member Matthew Hayes pertaining to the July 27, 2021 hearing.
2. Mullins Rule Certification dated August 24, 2021 for Board member Robert Tucker pertaining to the August 10, 2021 hearing.

V. **TESTIMONY** – During the course of the public hearing, the Board heard and received verbal testimony from:

- Steve Bouley, P.E, Tetra Tech – Commentary throughout the public hearing process
- Courtney Sudak, P.E. Tetra Tech – Commentary related to parking and traffic
- Jeff Komrower of Noise Control Engineering LLC, acoustic sound consultants for the Town.
- Andy Carballeira, Acentech Inc., acoustic sound consultant for the Applicant.
- Chris Sparges, Sparges Engineering Consultants, engineering consultant for the Applicant.
- Edward (Ted) Cannon, Doherty Dugan Cannon Raymond and Weil, P.C., attorney for the Applicant
- Brian Anderson of Anderson Porter Design, architect for the Applicant



- Kevin Doherty of Knoll Environmental LLC, environmental consultant for the Applicant
- Peter D’Agostino, Tenax Strategies, Inc. regulatory consultant for the Applicant
- Daniel Dumais, P.E. MDM Transportation Consultants, traffic consultant for the Applicant
- Former Norfolk County Sheriff Jerry McDermott and Retired State Police Major Pat Russolillo, security consultants for the Applicant
- Medway Conservation Agent Bridget Graziano
- Resident John Lally, 35 Coffee Street
- Resident Leigh Knowlton, 14 Green Valley Road

## VI. FINDINGS

The Planning and Economic Development Board, at its meeting on \_\_\_\_\_, on a motion made by \_\_\_\_\_ and seconded by \_\_\_\_\_, voted to \_\_\_\_\_ the following **FINDINGS** regarding the special use permit application for a marijuana facility at 6 Industrial Park Road. The motion was \_\_\_\_\_ by a vote of \_\_\_\_\_ in favor and \_\_\_\_\_ opposed.

### GENERAL FINDINGS from PUBLIC HEARING TESTIMONY

#### (1) NOISE ISSUES

- A. Pursuant to Section 7.3.C.2. of the *Zoning Bylaw*, the “Maximum permissible sound pressure levels measured at the property line nearest to the noise source for noise radiated continuously from the noise source between 10 PM and 7 AM shall be as follows.”

Frequency Band (Cycles per Second)	Sound Pressure Level (Decibels 43 0.0002 Dyne/CM2)
2-72	69
75-150	54
150-300	47
300 - 600	41
600 – 1,200	37
1,200 – 2,400	34
2,400 - 4,800	31
4,800 – 10,000	28

“For noise levels between 7 A.M. and 10 P.M., and if the noise is not smooth and continuous, the following corrections shall be added to each of the decibel levels given above:

- Daytime operation only: +5
- Noise source operated at less than 20% of any 1-hour period: +5”

- B. Earlier in 2019, during the Board’s review of the recreational marijuana establishment special permit application for 2 Marc Road, the Board along with the Board’s sound consultant (Noise Control Engineering) and that applicant’s sound consultant (Acentech, Inc.) agreed that the frequency band range form of noise measurement specified in the *Medway Zoning Bylaw* is outdated. The consultants concurred that noise measurements in accordance with the *Zoning*

**Commented [BSA1]:** Isn’t Phytopia subject to the new Section 7.3 because the special permit was not issued prior to the first notice of the public hearing on the by-law amendment? So should there be a condition that applicant must comply with the new by-law if it is passed by TM and approved by AG?



*Bylaw's* standards are neither ideal nor typical today. The Board acknowledged that frequency band ranges presently included in the *Zoning Bylaw* do not accurately reflect contemporary sound measurement standards and provide challenges to interpretation and enforcement of the applicable provisions of the *Zoning Bylaw*. The Board was willing to allow a conversion to more modern standards, but only as long as the conversion was more, not less restrictive.

Noise Control Engineering converted the *Zoning Bylaw's* frequency band noise levels to octave bands for noise measurement purposes. The method used was based on the frequency span of the octave bands and is consistent with the conversion documented in the 1980 EPA document 905-R-80-117 *Noise Legislation Trends and Implications*. The table below shows the conversion of the *Bylaw's* frequency band noise standards to the modern octave band noise standards with the nighttime and daytime adjustments.

Octave Band Center Frequency (Hz)	Medway <i>Zoning Bylaw</i> Sound Pressure Level, (dB re 20 micro-Pa) Nighttime	Medway <i>Zoning Bylaw</i> Sound Pressure Level, (dB re 20 micro-Pa) Daytime
63	67	72
125	55	60
250	48	53
500	42	47
1000	38	43
2000	35	40
4000	32	37
8000	28	33

- C. The Applicant's preliminary noise mitigation plan, prepared by Acentech of Cambridge, MA, dated April 12, 2021 was submitted to the Board with the special permit application. The Board retained Noise Control Engineering (NCE) of Billerica, MA to review that preliminary noise mitigation plan. NCE provided a memorandum dated July 7, 2021 with comments and recommendations of additional information needed.
- D. The Applicant submitted an updated noise mitigation plan, prepared by Acentech, dated July 9, 2021. **SUMMARIZE**
- E. The Board's noise consultant Noise Control Engineering reviewed the revised noise mitigation plan and provided another review memorandum dated August 2, 2021. **SUMMARIZE**
- F. The Board is in receipt of written and verbal testimony of abutters and nearby residents in the vicinity of 6 Industrial Park Road expressing concerns with respect to the potential for excessive noise with the 6 Industrial Park Road facility.
- G. The Board understands that, as part of the permitting with the Massachusetts Cannabis Control Commission, an applicant is required to comply with the MA



DEP Noise Policy and associated Noise Regulations (310 CMR 7.10). These regulations state that a source of sound violates the regulation if the source:

1. Increases the broadband sound level by more than 10dB above ambient, or
2. Produces a “pure tone” condition which occurs when any octave band center frequency sound pressure level exceeds the two adjacent center frequency sound pressure levels by 3 decibels or more.

The MA DEPT Noise Policy and Regulations state that these criteria are measured both at the property line and at the nearest inhabited residence. “Ambient” is defined as the background A-weighted sound level that is exceeded 90% of the time (the  $L_{90}$  metric) measured during equipment operating hours.

**NOTE – The Board has not revisited the noise mitigation measures.**

(2) **ODOR ISSUES**

- A. Pursuant to Section 7.3.D. of the *Zoning Bylaw*, “In all districts, no emissions of odorous gases or odoriferous matter in such quantities as to be discernible outside the property line shall be permitted. Any industrial process which may involve the creation and/or emission of any odors shall be provided with a secondary safeguard system. No objectionable odor greater than that caused by 0.001201 oz. per thousand cubic feet of hydrogen sulfide or any odor threshold as defined in Table III in Chapter 5 of Air Pollution Abatement Manual (copyright 1951 by manufacturing Chemists Assoc., Inc., Washington, DC) shall be permitted.” The applicant also is required by the Cannabis Control Commission to comply with 310 CMR 7.00 regarding odor control.
- B. The Applicant’s preliminary odor mitigation plan was submitted to the Board on May 12, 2021 with the special permit application. It was prepared by BLW Engineers of Littleton, MA.
- C. The Board retained Straughan Forensic, LLC of Arvada, CO, to review that preliminary odor control approach. Straughan Forensic provided review letter dated June 16, 2021 with comments and recommendations of additional information needed.
- D. BLW Engineers provided a letter dated July 9, 2021 in response to the Straughan Forensic review comments.

**NOTE – The Board has not revisited the odor mitigation measures.**

**REGISTERED MEDICAL MARIJUANA FACILITIES SPECIAL PERMIT FINDINGS**  
**(Sub-Section 8.9 of the Zoning Bylaw)**

- (1) Section 8.9.E(1) and (2) and (3) and (5). The registered medical marijuana facility will be contained within an established building located at 6 Industrial Park Road and its associated addition which are located in the East Industrial zoning district where such facilities may be authorized by special permit. This is and will be a permanent stand-building which does not contain any residential uses or medical doctors’ offices



or offices of other professional practitioners' authorized to prescribe the use of medical marijuana. The site will include driveways, parking areas, utility systems, sidewalks and stormwater management facilities. The facility is not located within 500 feet of any lot with an existing public or private school serving students in grades K-12. Retail sales are prohibited at this site.

- (2) Concurrent with the Board's review of the special permit application, the Board is also reviewing a major site plan for the property, which is still pending before the Board.
- (3) Section 8.9.E (4). The hours of operation are as prescribed in Special Condition \_\_\_\_.
- (4) Section 8.9.E(6) and (7) As conditioned herein and as required by the *Zoning Bylaw*, smoking, burning and consumption of marijuana or marijuana-infused products on the premises is not allowed, and drive-through service is not allowed.
- (5) As conditioned in Specific Condition \_\_\_\_, any signage for the facility shall comply with Section 8.9.F and Section 7.2 of the *Zoning Bylaw*.
- (6) As conditioned in Specific Condition \_\_\_\_, the Permittee shall provide the contact information for management staff and key holders of the facility to Town officials as indicated in Section 8.9.G.
- (7) As conditioned in Specific Conditions \_\_\_\_, the Board finds that the operation of a registered medical marijuana facility will not create a nuisance to abutters or to the surrounding area or create any hazard. Both the Applicant and the Town have contracted with noise and odor consultants. The Applicant has prepared a noise mitigation plan which has been reviewed by the Town's noise consultant. It will be implemented in accordance with Specific Condition \_\_\_\_ herein. The Applicant has also provided an odor control plan which will be implemented in accordance with Special Condition \_\_\_\_ herein.

The Board is requiring on-going noise and odor monitoring to ensure compliance with the Town's requirements. See Special Conditions \_\_\_\_ and \_\_\_\_\_. As conditioned herein, any non-compliance will be addressed through zoning enforcement.

#### WHAT TO SAY ABOUT THE CONTAMINATION ISSUE?

- (8) As conditioned in Specific Condition \_\_\_\_, the facility shall meet the Openness of Premises requirements of Section 8.9.I. No activities within the building or displays of products will be visible from the exterior of the building. The front of the building, which includes the primary entrance to the facility, is fully visible from the site's frontage on Industrial Park Road. All operations will be within the restricted building.
- (9) This special permit authorizes only the cultivation, processing and packaging of marijuana for medical use. Retail sale of medical marijuana is not allowed in this zoning district.
- (10) As conditioned in Specific Condition \_\_\_\_, copies of required licenses and permits issued by the Commonwealth will be provided upon approval by the Massachusetts Cannabis Control Commission. The registered medical marijuana facility will be



operated in strict compliance with Massachusetts Cannabis Control Commission regulations.

- (11) The special permit application and associated documents include the submittals required in Section 8.9 J.4 of the Zoning Bylaw.

- Medway Flower, LLC is the record owner of the property as shown on the Medway Assessor's records as documented in a quitclaim deed from Alexander S. Athanas of Peabody, MA recorded at the Norfolk County Registry of Deeds, Book 36836, Pages 269 and 270, on May 30, 2019.

The Applicant, Phytopia, LLC will be a tenant in the subject property and building pursuant to a lease dated \_\_\_\_\_, with Medway Flower LLC. Accordingly, the Applicant has the right to use the site for a registered marijuana establishment. **DOCUMENTATION NEEDED. Requested 10-19-21.**

- The Applicant has provided a sworn statement disclosing the owner's or other similarly situated individuals' interest in the registered marijuana establishment.
- A certified list of all abutter and parties of interest was provided.
- A site plan was submitted and is under review by the Board, the Conservation Commission and the Town's consultants. A detailed floor plan of the premises showing the functional areas of the facility has also been provided. The facility's security plan including lighting, fencing, gates and alarms was submitted and provided to the Police and Fire Chiefs during the permitting process.
- The Applicant has informed the Board that the policies/procedures for the transfer, acquisition, or sale of medical marijuana between approved RMMF's (seed-to-sale tracking) has been standardized and is now regulated via oversight by the Cannabis Control Commission through METRC, a national cannabis supply chain tracking and monitoring company.
- A comprehensive noise mitigation plan prepared by Acentech, Inc. a qualified acoustical consultant has been provided. It has been reviewed by the Town's noise consultant, Noise Control Engineering. The plan was revised, re-submitted and re-reviewed. It will be implemented in accordance with Specific Condition \_\_\_\_ herein. The planned noise mitigation measures are expected to enable the facility to meet the Town's noise standards as included in Section 7.3 of the *Zoning Bylaw* and as further specified herein. As conditioned herein, any non-compliance will be addressed through zoning enforcement.
- A comprehensive odor mitigation plan prepared by the Applicant's odor consultant, BLW Engineers, Inc., was submitted to the Board and reviewed by Straughan Forensic, LLC, the Board's odor consultant. The odor mitigation plan was revised, re-submitted and re-reviewed. It will be implemented in



accordance with Specific Condition \_\_\_\_ herein. As conditioned herein, any non-compliance will be addressed through zoning enforcement.

- (13) The registered medical marijuana establishment, as conditioned herein, has been designed to minimize adverse visual or economic impacts on abutters and other parties in interest.
- (20) As conditioned herein, the proposed facility will meet all the permitting requirements of all applicable agencies within the Commonwealth of Massachusetts and will be in compliance with all applicable state laws and regulations.
- (21) As conditioned herein, the Applicant has satisfied the conditions and requirements of this Section 8.9 and Section 3.4 of the *Zoning Bylaw*.

**RECREATIONAL (ADULT USE) MARIJUANA ESTABLISHMENT SPECIAL PERMIT FINDINGS (Sub-section 8.10 of the Zoning Bylaw)**

- (1) Section 8.10.E.(1) and (2). The recreational marijuana establishment will be contained within an established building located at 6 Industrial Park Road and its associated addition which are located in the East Industrial zoning district where such facilities may be authorized by special permit. This is and will be a permanent stand-building which does not contain any residential uses or medical doctors' offices or offices of other professional practitioners' authorized to prescribe the use of medical marijuana. The site will include driveways, parking areas, utility systems, sidewalks and stormwater management facilities. Retail sales are prohibited at this site.
- (2) Section 8.10.E.(4). None of the uses listed in Section 8.10 E. 4. of the *Zoning Bylaw* (public or private school serving students in grades K-12) are located within 500 feet of the site of the proposed facility.
- (3) Section 8.10.E.(5) and (6). As conditioned herein and as required by the *Zoning Bylaw*, smoking, burning and consumption of marijuana or marijuana-infused products on the premises is not allowed, and drive-through service is not allowed.
- (4) As conditioned herein, any signage for the facility shall comply with Section 8.10.F and Section 7.2 of the *Zoning Bylaw*.
- (5) As conditioned herein, the Permittee shall provide the contact information for management staff and key holders of the facility to Town officials.
- (6) As conditioned herein, the Board finds that the operation of the recreational marijuana establishment will not create a nuisance to abutters or to the surrounding area **or create any hazard**. Both the Applicant and the Town have contracted with noise and odor consultants. The Applicant has prepared a noise mitigation plan which has been reviewed by the Town's noise consultant. It will be implemented in accordance with Specific Condition \_\_\_\_herein. The Applicant has also provided an odor control plan which will be implemented in accordance with Special Condition \_\_\_\_herein.

The Board is requiring on-going noise and odor monitoring to ensure compliance with the Town's requirements. See Special Conditions \_\_\_\_ and \_\_\_\_ E. As conditioned herein, any non-compliance will be addressed through zoning enforcement.



- (7) The existing building meets the requirements for “openness of premises” since no activities within the building or displays of products are visible from the exterior of the building and the front of the building, which includes the primary entrance to the facility, is fully visible from the site’s frontage. All operations will be within the restricted building
- (8) The special permit authorizes only the following adult recreational marijuana establishment activities: cultivation, manufacturing, processing and packaging of marijuana and marijuana products, and the transport and delivery of such to other recreational marijuana establishments. Retail sales and marijuana social establishments are not allowed pursuant to the *Zoning Bylaw*.
- (9) As conditioned herein, copies of required licenses and permits issued by the Commonwealth will be provided upon approval by the Massachusetts Cannabis Control Commission. The recreational marijuana operation will be operated in strict compliance with Massachusetts Cannabis Control Commission regulations.
- (10) Medway Flower, LLC is the record owner of the property as shown on the Medway Assessor’s records as documented in a quitclaim deed from Alexander S. Athanas of Peabody, MA recorded at the Norfolk County Registry of Deeds, Book 36836, Pages 269 and 270, on May 30, 2019.

The Applicant, Phytopia, LLC will be a tenant in the subject property and building pursuant to a lease dated \_\_\_\_\_, with Medway Flower, LLC. Accordingly, the Applicant has the right to use the site for a registered marijuana establishment.

- (11) The Applicant has provided a sworn statement disclosing the owner’s or other similarly situated individuals’ interest in the registered marijuana establishment.
- (12) A certified list of all abutter and parties of interest was provided.
- (13) A site plan was submitted and is under review by the Board, the Conservation Commission and the Town’s consultants. A detailed floor plan of the premises showing the functional areas of the facility has also been provided. The facility’s security plan including lighting, fencing, gates and alarms was submitted and provided to the Police and Fire Chiefs during the permitting process.
- (14) The Applicant has informed the Board that the policies/procedures for the transfer, acquisition, or sale of medical marijuana between approved RMMF’s (seed-to-sale tracking) has been standardized and is now regulated via oversight by the Cannabis Control Commission through METRC, a national cannabis supply chain tracking and monitoring company.
- (15) A comprehensive noise mitigation plan prepared by the Applicant’s noise consultant, Acentech, Inc. was submitted and reviewed by Noise Control Engineering, the Board’s noise consultant. The plan was revised, re-submitted, and re-reviewed. The planned noise mitigation measures are expected to enable the facility to meet the Town’s noise standards as included in Section 7.3 of the *Zoning Bylaw* and further clarified herein. As conditioned herein, any non-compliance will be addressed through zoning enforcement.



- (16) A comprehensive odor mitigation plan prepared by the Applicant's odor consultant, BLW Engineers, Inc., was submitted to the Board and reviewed by Straughan Forensic, LLC, the Board's odor consultant. As conditioned herein, any non-compliance will be addressed through zoning enforcement.
- (17) The adult recreational marijuana establishment, as conditioned herein, has been designed to minimize adverse visual or economic impacts on abutters and other parties in interest. ~~No changes in the existing building or site are proposed other than the described site improvements and possible additional measures to address potential noise and odor impacts if such occur in the future.~~
- (18) As conditioned herein, the proposed facility will meet all the permitting requirements of all applicable agencies within the Commonwealth of Massachusetts and will be in compliance with all applicable state laws and regulations.
- (19) As conditioned herein, the Applicant has satisfied the conditions and requirements of this Section 8.10 and Section 3.4 of the *Zoning Bylaw*.

**GENERAL SPECIAL PERMIT FINDINGS** (Sub-section 3.4 of the *Zoning Bylaw*)

- (1) The proposed site is an appropriate location for the proposed use.

*Sections 8.9 and 8.10 of the Zoning Bylaw and Table 1 – Schedule of Uses specifies that registered medical marijuana facilities and non-retail recreational marijuana establishments are allowed by special permit in the East and West Industrial zoning districts. The subject site at 6 Industrial Park Road is located within the East Industrial zoning district and is therefore an eligible location for the proposed use. Further, the site is not located within 500 feet of any of the uses from which marijuana establishments are prohibited (existing public or private school serving students in grades K-12). The site includes an existing industrial building constructed in 1973.*

- (2) Adequate and appropriate facilities will be provided for the operation of the proposed use.

*The recreational and medical marijuana cultivation and processing uses will occur within the existing industrial building at 6 Industrial Park Road and a planned addition. The project has been reviewed by the Town's engineering, noise and odor consultants. This special permit is conditioned on the Permittee's receipt of major site plan approval, a reduced parking special permit, and a groundwater protection special permit which have yet to be issued.*

- (3) The proposed use as developed will not create a hazard to abutters, vehicles, pedestrians or the environment.

**How to Answer this?**

- (4) The proposed use will not cause undue traffic congestion or conflicts in the immediate area.

**We need to insert some language here.** *The proposed facility is expected to have \_\_\_ employees. The planned parking is for \_\_\_ vehicles. As the facility will not have a*

**Commented [BSA2]:** Reference the fact of no retail sales; will be subject to requirements of the Major Site Plan review.



*retail operation, non-employee traffic to the site will be minimal. The Industrial Park Road system is adequate to handle the routine employee traffic. The site's access is from Main Street/Route 109, a major east-west arterial roadway, so there is no traffic impact on local residential roadways.*

- (5) The proposed use will not be detrimental to the adjoining properties due to lighting, flooding, odors, dust, noise, vibration, refuse materials, or other undesirable visual, site or operational attributes of the proposed use.

**We need to insert some language here that it tied to future site plan decision.** The applicant, as a condition of receiving these special permits prior to completion of the review of the Major Site Plan application, has agreed that the conditions imposed by the Major Site Plan decision will also apply to this special permit decision.

- (6) The proposed use as developed will not adversely affect the surrounding neighborhood or significantly alter the character of the zoning district.

*The proposed use is manufacturing and is therefore consistent with the character of the East Industrial Zoning District in which the subject property is located. This application proposes to produce marijuana for medical and adult recreational use within the existing building and the planned addition. The proposed manufacturing use will not significantly alter the character of the East Industrial zoning district.*

*The Board heard testimony from residential abutters and neighbors about their concerns regarding adverse noise and odor conditions which may emanate from the proposed facility. The Board contracted with outside consultants specializing in noise and odor control to review and provide guidance as to how to minimize potential noise and odors. The final site plan will include extensive and rigorous measures to ensure that the impacts are minimal at best. The Applicant will be held to the environmental standards included in Section 7.3 of the Zoning Bylaw. The Cannabis Control Commission requires its Applicants to also meet the MA DEP noise standards. Measures to address other types of potential impacts (lighting, flooding, dust, vibration, refuse materials, etc.) will also be included in the site plan decision. As conditioned herein, the Board finds that reasonable measures will be taken such that this particular industrial use will not adversely affect the surrounding neighborhood.*

- (7) The proposed use is in harmony with the general purpose and intent of this Zoning Bylaw.

*The Recreational Marijuana section of the Zoning Bylaw (Section 8.10) was adopted by the Town in May 2018 with the specific intent of allowing the establishment of non-retail recreational marijuana establishments at limited locations in Medway. The stated purpose of Section 8.10 is to address possible adverse public health and safety consequences and impacts on the quality of life related to this type of facility by providing for them in appropriate places and under strict conditions. As the proposed facility is located within one of the designated zoning districts and has been rigorously reviewed by the Board and its consultants, and as conditioned herein, it meets the purpose of the Zoning Bylaw.*



- (8) The proposed use is consistent with the goals of the Medway Master Plan.

*The existing facility and the expanded use of the facility is in compliance with Goals 1 and 6 of the Economic Development Goals and Objectives section of the Medway Master Plan as follows:*

- *Goal 1: Maximize the area's economic resources*
- *Goal 6: Attract new (and retain existing) businesses and increase the industrial/manufacturing base.*

- (9) The proposed use will not be detrimental to the public good.

*As a facility in compliance with state and local law, consistent with the goals of the Medway Master Plan, and as thoroughly conditioned herein, the proposed use will not be detrimental to the public good.*

**VIII. CONDITIONS** The *Special and General Conditions* included in this Decision are to assure that the Board's approval of this special permit is consistent with the *Zoning Bylaw*, and that the comments of various Town boards and public officials have been adequately addressed, and that concerns of abutters and other town residents which were aired during the public hearing process have been carefully considered. These conditions are binding on the Permittee.

#### **SPECIFIC CONDITIONS OF APPROVAL**

- A. All standard requirements included in Sections 8.9 and 8.10 of the *Zoning Bylaw* apply to this special permit. These include but are not limited to:
1. Prior to commencing operations on the property to cultivate and process marijuana for adult recreational and medical uses, the Permittee shall provide the Building Commissioner, Health Agent, Fire Chief, Police Chief, and the Board with a copy of the applicable state marijuana establishment licenses, permits, and approvals from the Massachusetts Cannabis Control Commission.
  2. The Permittee shall provide the Medway Police and Fire Departments, Building Commissioner, and the Board with the names, telephone numbers, and email addresses of all management staff and key holders to whom the Town can provide notice if there are operating problems associated with the establishment.
  3. The Permittee shall provide an annual report of Phytopia LLC to the Board and other Town officials no later than January 31<sup>st</sup> of each year, including a copy of all current state licenses and demonstrating continued compliance with the conditions of this special permit. Any change in ownership of Phytopia, LLC or change in management staff and key holders shall also be reported.
  4. This special permit is not transferrable to another party. It shall remain exclusively with the Permittee, Phytopia, LLC, as the operator of a recreational (adult use) marijuana establishment and a non-retail registered medical marijuana facility on the premises.
  5. Smoking, burning and consumption of marijuana or marijuana infused products on the premises is prohibited.



6. The Permittee shall notify the Building Commissioner, Health Agent, Fire Chief, Police Chief, and the Board in writing within forty-eight hours of the cessation of operation of the marijuana business or the expiration or termination of the license holder's certificates or registration with the Massachusetts Cannabis Control Commission.
  7. The Permittee shall fulfill the *Openness of Premises* requirements as specified in Sections 8.9 and 8.10 of the *Zoning Bylaw*.
- B. Host Community Agreement - There shall be a valid Host Community Agreement with the Town of Medway in effect at all times during the operation of this marijuana establishment.
- C. **Hours of Operation – TO BE DETERMINED**
- D. **Nuisance** – The Permittee shall construct and maintain the property and establishment so as to not create a nuisance to abutters or to the surrounding area, or create any hazard, including but not limited to fire, explosion, fumes, gas, smoke, odors, obnoxious dust, vapors, offensive noise or vibration, flashes, glare, objectionable effluent or electrical interference, which may impair the normal use and peaceful enjoyment of any property, structure, or dwelling in the area.
- E. **Noise Management**
1. The Permittee shall install and maintain at all times effective noise reduction equipment for the property to comply with Section 7.3 of the *Zoning Bylaw* as well as the Massachusetts Department of Environmental Protection (MA DEP) noise requirements as established in 310 CMR 7.10. The Permittee will achieve compliance through industry best practices and suitable noise abatement measures. The Permittee shall ensure proper maintenance of all noise abatement equipment to ensure maximum efficiency and effectiveness and ongoing compliance.
  2. Prior to the issuance of an occupancy permit for the 6 Industrial Park Road facility, the Permittee shall provide the Building Commissioner, Health Agent, and Board with a noise study measuring ambient sound levels without the external mechanical equipment in operation, the sound at each of the 6 Industrial Park Road property boundaries during full operating conditions, and the sound at the locations of existing and expected future sensitive receptors. The purpose is to determine if the facility complies with Section 7.3 of the *Zoning Bylaw* as well as the MA DEP noise requirements as established in 310 CMR 7.10. The Board, Building Commissioner or Health Agent may forward the noise study to the Town's noise consultant for peer review and comment, at the Permittee's expense.
    - a. Establishment of Ambient Noise Levels – Ambient background levels shall be established without the influence of any noise emanating from the CommCan facility at 2 Marc Road and the NeoOrganics facility at 4 Marc Road. If background noise levels at 2 and 4 Marc Road have been previously established prior to operation of the CommCan facility and are acceptable to



the Board, they may be used. If not, new measurements to establish background noise levels will be performed by the Permittee. Any noise sources from 2 and 4 Marc Road that may contribute to background noise levels should be turned off during the attended measurements to establish the background noise levels. If unattended monitoring is used, the noise contribution from 2 and 4 Marc Road can be established by shutting down the noise sources during a specified time period and calculating the difference in  $L_{90}$  levels during on and off times. If it is not possible to take ambient measurements with the 2 and 4 Marc Road facility shutdowns, ambient measurements should be taken in an area with similar ambient conditions (i.e. similar distance from major roads or other noise sources) which is far enough from the 2 and 4 Marc Road facilities so that the 2 and 4 Marc Road facilities do not significantly influence the measures. If an alternative method for establishing the background levels is proposed, a test plan shall be submitted to the Board for acceptance of the alternative method. The Board may seek guidance from its noise consultant.

**Commented [BSA3]:** How is this to be done? These are owned by a separate entity and may not agree to turn off noise sources.

Separate background noise levels shall be established for daytime hours (7 am to 9 pm), evening hours ( ) and nighttime hours ( ).

Background noise levels can be established either by attended measurements (with the sample time at each measurement location to be not less than 10 minutes) or by unattended measurements for a period of at least 3 days. It will be sufficient to establish the background noise levels at representative locations at the property line.

- b. Measurement of Operational Noise Levels – The operational sounds measurements will consist of attended daytime and nighttime noise measurements at the facility property line and the sensitive receptors for a period of at least ten minutes. If the equipment is expected to produce higher noise levels at operating conditions other than the full load, those conditions shall be measured as well.

The measurements shall be taken at the same locations as evaluated in the \_\_\_\_\_ Acentech study. These include:

- -
- c. All sound measurements shall be conducted by a qualified acoustical consultant (INCE board certification or equivalent experience) in accordance with industry best practices.
- d. Measurement instrumentation shall comply with Class 1 in accordance with IEC 61678, and should be capable of measuring A-weighted and octave-band sound levels. The acoustic descriptor for reporting shall be the  $L_{90}$  sound level for background noise levels. If operational data is steady state, the  $L_{90}$  metric can also be used for operational data. Otherwise the  $L_{eq}$  or higher metric



should be used. Sound level meters shall be provided with windscreens and their calibration shall be field-checked before and after the measurements.

- e. The Board, Building Commissioner or Health Agent may require the Permittee to implement additional noise mitigation measures if the noise study indicates that the facility is non-compliant with Section 7.3 of the *Zoning Bylaw* or the MA DEP Noise Policy.
3. Approximately six months after beginning operations under this Special Permit, the Permittee shall provide a supplemental noise study. These measurements shall be carried out to the same standards and methods as the initial study. The scope and methods of the study shall be the same as in the initial study described above.

The Permittee shall submit that study to the Building Commissioner, Health Agent and Board so as to determine continued compliance with the *Zoning Bylaw* and any conditions set forth herein as to noise. The Building Commissioner, Health Agent or Board may forward the plan to the Town's noise consultant for review and comment, at the Permittee's expense. The Permittee shall be required to implement additional noise mitigation measures if the facility is non-compliant with the *Zoning Bylaw* and the MA DEP Noise Policy.
4. The Permittee shall annually submit a certification by a registered professional mechanical engineer that there are no changes in the installed mechanical equipment which may impact the noise emanating from the facility. Such certification shall be provided to the Building Commissioner, Health Agent and the Board.
5. The Building Commissioner, in enforcing the conditions contained herein, may require the Permittee to provide additional noise studies by a qualified noise consultant and/or implement additional mitigation measures should legitimate concerns or complaints develop in the future about noise generation from the facility. The Permittee may further be required to address such issues with the Board to its satisfaction.

#### F. **Odor Management**

1. The Permittee shall install and maintain at all times effective odor control technology to remove odors from the facility's exhaust system to comply with Section 7.3 of the *Zoning Bylaw*. The Permittee will complete this through industry best practices and suitable building filtration systems including a secondary safeguard system as required by the *Zoning Bylaw*. The Permittee shall maintain all odor migration equipment to ensure maximum efficiency and effectiveness and ongoing compliance.
2. The presented Odor Control Approach dated \_\_\_\_\_ does not include mechanical drawings for the odor management system (??) At such time as the mechanical drawings are available, they shall be submitted to the Board for review by the Board's odor consultant, at the Permittee's expense, to determine if they comply with the Odor Mitigation Plan.



3. The \_\_\_\_\_ review letter of Straughan Forensic, LLC, the Board's odor consultant, identifies a number of issues and information missing from the Odor Mitigation Plan. The Straughan Forensic letter dated \_\_\_\_\_ is attached and made a part of this decision. These items shall be fully addressed and included in the odor plans submitted to the Massachusetts Cannabis Control Commission for approval. The submittal to the Cannabis Control Commission shall indicate that the odor control system must comply with Section 7.3 of the *Zoning Bylaw*.
4. The Permittee shall provide the odor plan approved by the Massachusetts Cannabis Control Commission to the Board.
5. Prior to the issuance of an occupancy permit by the Medway Building Department, the Permittee shall review the approved odor control system as installed with the Building Commissioner and demonstrate that the measures specified in the approved odor control, abatement and mitigation plan including the secondary safeguard system have been implemented. The Permittee shall provide a certification made by a licensed engineer that the odor mitigation measures included in the approved plan have been installed. Additional odor mitigation measures may be required if determined to be necessary by the Building Commissioner.
6. For each of the two successive years following occupancy, the Permittee shall annually submit a certification by a registered professional engineer that there have been no changes in the mechanical equipment that has been installed to control the odor emanating from the facility. Such certification shall be provided to the Building Commissioner, Health Agent and the Board.
7. The Building Commissioner, in enforcing the conditions herein, may require additional odor investigations and/or odor mitigation measures should legitimate concerns and complaints develop in the future about odor generation from the facility. Permittee may further be required to address such issues with the Board to its satisfaction.

**G. Water Use and Conservation**

1. The development is relying on the Town's public water system and the Town is being held to its Water Management Act Permit with the MA Department of Environmental Protection. The Permittee shall incorporate the following water conservation measures for construction of the development:
  - a. private well water for landscape irrigation
  - b. rain-gauge controlled irrigation systems
  - c. water efficient appliances (toilets, etc.)
2. The Permittee shall not use Town water for irrigation of the site's lawn and landscaping.

**H. Signage** – Any signs shall comply with Section 7.2 of the *Zoning Bylaw* and the respective signage requirements of Sections 8.9 and 8.10.

**I. Limitations**

**Commented [BSA4]:** Is this advisable given the contamination issues? Should the applicant be sinking a well?



1. This special permit is limited to the operation of a medical and recreational marijuana cultivation and processing establishment at 6 Industrial Park Road. This permit does not authorize operation of a retail outlet for the sale of adult recreational marijuana products or medical marijuana products, or the operation of a marijuana social establishment, or the operation of a marijuana testing facility on the premises.
2. This special permit does not relieve the Permittee from its responsibility to apply for, obtain, pay for, and comply with all other required federal, state and Town permits, licenses and approvals.
3. This special permit approval is subject to all subsequent conditions that may be imposed by other Town departments, boards, agencies or commissions. Any changes to the site plan that may be required by the decisions of other Town boards, agencies or commissions shall be submitted to the Board for review as site plan modifications.
4. This permit does not authorize renovation of the existing property or new construction or site improvements. An approved site plan, groundwater special permit, and a reduced parking special permit are required before any building permits can be issued or site work undertaken.
5. This special permit shall expire on \_\_\_\_\_ if the Permittee has not secured the Board's approval of the associated major site plan, reduced parking special permit, and groundwater protection permit.

#### **GENERAL CONDITIONS OF APPROVAL**

- A. **Fees** - Prior to filing the special permit decision with the Town Clerk, the Board requires the Applicant to pay:
  1. the balance of any outstanding project review fees owed to the Town for review of the application by the Town's engineering, planning, noise, odor or other consultants;
  2. an advance on fees for the continued review services to be provided by outside noise and odor consultants as approved by the Planning and Economic Development Board;
  3. any other outstanding expenses or obligations due the Town of Medway pertaining to this property, including real estate and personal property taxes and business licenses.
- C. ~~**Restrictions on Construction Activities** — During construction, all local, state and federal laws shall be followed regarding noise, vibration, dust and blocking of Town roads. The Permittee and its contractors shall at all times use all reasonable means to minimize inconvenience to abutters and residents in the general area. The following specific restrictions on construction activity shall apply:~~
  1. ~~**Construction Time** — Construction work at the site and in the building and the operation of construction equipment including truck/vehicular and machine start-up and movement shall commence no earlier than 7 a.m. and shall cease no later~~



~~than 6 p.m. Monday – Saturday. No construction shall take place on Sundays or legal holidays without the advance approval of the Building Commissioner. These rules do not apply to interior construction work such as carpentry, installation of drywall, flooring, electrical and HVAC systems, painting, etc.~~

- ~~2. *Neighborhood Relations* – The Permittee shall notify neighbors in the general area around the site when site work and construction are scheduled to begin and provide a phone number for them to use for questions and concerns that arise during construction.~~
- ~~3. The Permittee shall take all measures necessary to ensure that no excessive dust leaves the premises during construction including use of water spray to wet down dusty surfaces.~~
- ~~4. There shall be no tracking of construction materials onto any public way. Daily sweeping of roadways adjacent to the site shall be done to ensure that any loose gravel/dirt is removed from the roadways and does not create hazardous or deleterious conditions for vehicles, pedestrians or abutting residents. In the event construction debris is carried onto a public way, the Permittee shall be responsible for all clean up of the roadway which shall occur as soon as possible and in any event within twelve (12) hours of its occurrence.~~
- ~~5. The Permittee is responsible for having the contractor clean up the construction site and the adjacent properties onto which construction debris may fall on a daily basis.~~
- ~~6. All erosion and siltation control measures shall be installed by the Permittee prior to the start of construction and observed by the Board's consulting engineer and maintained in good repair throughout the construction period.~~
- ~~7. *Construction Traffic/Parking* – During construction, adequate provisions shall be made on site for the parking, storing, and stacking of construction materials and vehicles. All parking for construction vehicles and construction related traffic shall be maintained on site. No parking of construction and construction related vehicles shall take place on adjacent public or private ways or interfere with the safe movement of persons and vehicles on adjacent properties or roadways.~~
- ~~8. *Noise* - Construction noise shall not exceed the noise standards as specified in the *Zoning Bylaw*, SECTION V. USE REGULATIONS, Sub-Section B. Area Standards, Paragraph 2. b).~~
- ~~9. *Stormwater Management* – During construction, the Permittee shall maintain the site and installed stormwater management facilities in accordance with the *Construction Period Stormwater Operation and Maintenance Plan* included in *Stormwater Management Design and Runoff Calculations Report for 4 Mare Road*, dated July 24, 2019, last revised December 13, 2019 prepared by DGT Associates Surveying and Engineering.~~

D. **Construction Oversight**

- ~~1. *Pre Construction Meeting* – At least seven days prior to the start of any site preparation or construction, the Applicant shall meet with the Town's Consulting~~



~~Engineer, the Planning and Economic Development Coordinator, the Medway Department of Public Works, the Medway Conservation Agent (if applicable), the contractors and Applicant's project engineer for a pre construction meeting. The construction schedule shall be reviewed and the procedures for inspections discussed.~~

## ~~2. Construction Account~~

~~a) Inspection of infrastructure and utility construction, installation of site amenities including landscaping, and the review of legal documents by Town Counsel is required. Prior to plan endorsement, the Permittee shall establish a construction account with the Board. The funds may be used at the Board's discretion to retain professional outside consultants to perform the items listed above as well as the following other tasks: inspect the site during construction/installation, identify what site plan work remains to be completed, prepare a bond estimate, conduct other reasonable inspections until the site work is completed and determined to be satisfactory, review as-built plans, and advise the Board as it prepares to issue a *Certificate of Site Plan Completion*.~~

~~b) Prior to plan endorsement, the Permittee shall pay an advance toward the cost of these services to the Town of Medway. The advance amount shall be determined by the Board based on an estimate provided by the Town's Consulting Engineer.~~

~~c) Depending on the scope of professional outside consultant assistance that the Board may need, the Permittee shall provide supplemental payments to the project's construction inspection account, upon invoice from the Board.~~

~~d) Any funds remaining in the Permittee's construction inspection account after the *Certificate of Site Plan Completion* is issued shall be returned to the Permittee.~~

~~3. Board members, its staff, consultants or other designated Town agents and staff shall have the right to inspect the site at any time, for compliance with the endorsed site plan and the provisions of this *Decision*.~~

~~4. The Department of Public Works will conduct inspections for any construction work occurring in the Town's right of way in conjunction with the Town of Medway Street Opening/Roadway Access Permit.~~

~~5. The Permittee shall have a professional engineer licensed in the Commonwealth of Massachusetts conduct progress inspections of the construction of the approved site improvements. Inspections shall occur at least on a monthly basis. The engineer shall prepare a written report of each inspection and provide a copy to the Board within 5 days of inspection.~~

## ~~E. On-Site Field Changes~~

~~1. During construction, the Permittee may be authorized to make limited, minor, on-site field changes to the approved plan based on unforeseen site or job conditions;~~



~~situations, or emergencies necessitated by field conditions or due to practical considerations. These field changes shall not alter items which may affect the site's compliance with this *Decision* and the *Zoning Bylaw* nor conflict with a specific condition of the *Decision*. Field changes shall not substantially alter the intent, layout or design of the endorsed site plan.~~

- ~~2. Prior to undertaking such field changes, the Permittee and/or contractor shall discuss the possible field changes with the Town's Consulting Engineer and submit a letter and drawings to the Planning and Economic Development Coordinator and the Building Commissioner describing the proposed changes and what conditions, situations, or emergencies necessitate such changes. In accordance with Section 3.5.2.C of the *Zoning Bylaw*, the Building Commissioner may determine that the field change is insubstantial, authorize the change, and so notify the Board. Otherwise, the Board shall review the proposed field changes at a public meeting and determine whether the proposed field changes are reasonable and acceptable based on the unforeseen conditions, situations, or emergencies and whether other options are feasible or more suitable. A written authorization of field change will be provided. Any approved field change shall be reflected in the as-built plan to be provided at project completion.~~

**B. Modification of Decision**

1. Proposed modifications to this *Decision* shall be subject to review by the Board.
3. Any work that deviates from this *Decision* shall be a violation of the *Zoning Bylaw*, unless the Permittee requests approval of a modification pursuant to Section 3.5.2.A.3.c. and such approval is provided in writing by the Board.
3. The request for a modification to a previously approved special permit shall be subject to the same application and review process including a public hearing. Whenever additional reviews by the Board, its staff or consultants are necessary due to a proposed modification, the Permittee shall be billed and be responsible for all supplemental costs including filing fees, review fees and all costs associated with another public hearing including legal notice and abutter notification. If the proposed revisions affect only specific limited aspects of the site, the Board may reduce the scope of the required review and waive part of the filing and review fees.
5. The Board shall issue a modification decision, file such with the Town Clerk, and provide copies to the Building Commissioner and other Town officials and the Permittee. Any modification approved by the Board shall be made a permanent part of the approved special permit documents.

**C. Enforcement**

1. The Board or its agent(s) may use all legal options available to it, including referring any violation to the Building Commissioner/Zoning Enforcement Officer for appropriate enforcement action, to ensure compliance with the special and its Conditions of Approval.



2. The Conditions of Approval are enforceable under Section 3.1. F. of the *Zoning Bylaw* (non-criminal disposition) and violations or non-compliance are subject to the appropriate fine.

#### H. **Performance Security**

1. ~~No occupancy permit shall be granted until the Board has provided a written communication to the Building Commissioner/Zoning Enforcement Officer that the project, as constructed, conforms completely and fully to the approved site plan and that any conditions including construction of any required on and off site improvements, have been satisfactorily completed. OR that suitable security/performance guarantee has been provided to the Town of Medway, to the Board's satisfaction, to cover the cost of all remaining work.~~
2. ~~The Permittee shall propose a form of performance security which shall be of a source and in a form acceptable to the Board, the Treasurer/Collector and Town Counsel. The Board requires that the performance guarantee be accompanied by an agreement which shall define the obligations of the Permittee and the performance guarantee company including:~~
  - a) ~~the date by which the Permittee shall complete construction~~
  - b) ~~a statement that the agreement does not expire until released in full by the Board~~
  - c) ~~procedures for collection upon default.~~
3. ~~The amount of the performance guarantee shall be equal to 100% of the amount that would be required for the Town of Medway to complete construction of the site infrastructure including installation of stormwater management facilities, utilities, services, pedestrian facilities and all site amenities as specified in the approved Site Plan that remain unfinished at the time the performance guarantee estimate is prepared if the developer failed to do so.~~
4. ~~The security amount shall be approved by the Board based on an estimate provided by the Town's Consulting Engineer based on the latest weighted average bid prices issued by the Mass Highway Department. The estimate shall reflect the cost for the Town to complete the work as a public works project which may necessitate additional engineering, inspection, legal and administrative services, staff time and public bidding procedures. The estimate shall also include the cost to maintain the infrastructure in the event the Permittee fails to adequately perform such and the cost for the development of as-built plans. In determining the amount, the Board shall be guided by the following formula in setting the sum: estimate of the Town's Consulting Engineer of the cost to complete the work plus a 30% contingency.~~
5. ~~Final release of performance security is contingent on project completion.~~

#### I. **Project Completion**

1. ~~Site plan approval shall lapse after one (1) year of the grant thereof if substantial use has not commenced except for good cause. The work shown on the approved site plan shall be completed by the Permittee or its assignees within two (2) years of the date of plan endorsement. Upon receipt of a written request from the~~



~~Permittee filed at least thirty (30) days prior to the date of expiration, the Board may grant an extension for good cause. The request shall state the reasons for the extension and also the length of time requested. If no request for extension is filed and approved, the site plan approval shall lapse and may be reestablished only after a new filing, hearing and decision.~~

~~2. Prior to issuance of a final occupancy permit, the Permittee shall request a **Certificate of Site Plan Completion** from the Board. The **Certificate** serves as the Board's confirmation that the completed work conforms to the approved site plan and any conditions and modifications thereto, including the construction of any required on and off site improvements. The **Certificate** also serves to release any security/performance guarantee that has been provided to the Town of Medway. To secure a **Certificate of Site Plan Completion**, the Permittee shall:~~

- ~~a) provide the Board with written certification from a Professional Engineer registered in the Commonwealth of Massachusetts that all building and site work has been completed in substantial compliance with the approved and endorsed site plan, and any modifications thereto; and~~
- ~~b) submit an electronic version of an As Built Plan, prepared by a registered Professional Land Surveyor or Engineer registered in the Commonwealth of Massachusetts, to the Board for its review and approval. The As Built Plan shall show actual as built locations and conditions of all buildings and site work shown on the original site plan and any modifications thereto. The As Built Plan shall also show all utilities found during the construction process. The final As Built Plan shall also be provided to the Town in CAD/GIS file format per MASS GIS specifications.~~

- D. **Right to Enter Property** – Board members, its staff, consultants or other designated agents of the Town shall have the right to enter onto the property to ascertain compliance with the terms and conditions of this special permit.
- E. **Recording** - Within thirty days of recording the Decision, the Permittee shall provide the Board and the Building Commissioner with a receipt from the Norfolk County Registry of Deeds indicating that the Decision has been duly recorded, or supply another alternative verification that such recording has occurred.
- F. **Conflicts** –If there is a conflict between this Decision and the *Zoning Bylaw*, the *Bylaw* shall apply.

**IX. APPEAL** – The Board and the Applicant have complied with all statutory requirements for the issuance of this Decision on the terms set forth herein. A copy of this Decision will be filed with the Medway Town Clerk and mailed to the Permittee, and notice will be mailed to all parties in interest as provided in G.L. c. 40A §15.

Any person aggrieved by the decision of the Board may appeal to the appropriate court pursuant to Massachusetts General Laws, Chapter 40A, §17, and shall be filed within twenty days after the filing of this decision in the office of the Medway Town Clerk.

In accordance with G.L c. 40A, §11, no special permit shall take effect until a copy of the Decision is recorded in the Norfolk County Registry of Deeds, and indexed in the grantor index under the



name of the owner of record, or is recorded and noted on the owner's certificate of title, bearing the certification of the Town Clerk that twenty days have elapsed after the Decision has been filed in the office of the Town Clerk and no appeal has been filed within said twenty-day period, or that an appeal has been filed. The person exercising rights under a duly appealed special permit does so at risk that a court will reverse the permit and that any construction performed under the permit may be ordered undone. The fee for recording or registering shall be paid by the Permittee. A copy of the recorded Decision, and notification by the Permittee of the recording, shall be furnished to the Board.

DRAFT



\_\_\_\_\_ by the Medway Planning & Economic Development Board: \_\_\_\_\_

**AYE:**

**NAY:**

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**ATTEST:**

\_\_\_\_\_  
Susan E. Affleck-Childs  
Planning & Economic Development Coordinator

\_\_\_\_\_  
Date

**COPIES TO:** Michael Boynton, Town Manager  
Stephanie Carlisle, DPW Compliance Officer  
Michael Fasolino, Deputy Fire Chief  
Bridget Graziano, Conservation Agent  
Donna Greenwood, Assessor  
Beth Hallal, Health Agent  
Sean Harrington, Deputy DPW Director  
Jeff Lynch, Fire Chief  
Jack Mee, Building Commissioner and Zoning Enforcement Officer  
Pete Pelletier, DPW Director  
Joanne Russo, Treasurer/Collector  
Barbara Saint Andre, Director of Community and Economic Development  
Alan Tingley, Police Chief  
Jeff Watson, Police Department  
Steven Bouley, Tetra Tech  
Edward Cannon  
Phytopia, LLC



## Susan Affleck-Childs

---

**From:** Edward V. Cannon <evc@ddcrwlaw.com>  
**Sent:** Tuesday, October 19, 2021 11:39 AM  
**To:** Susan Affleck-Childs  
**Subject:** RE: Phytopia decision

Hi Susy,

All tracking from seed to sale is now done via state oversight. I think the link below is helpful...

<https://masscannabiscontrol.com/seed-to-sale-tracking/>

Companies previously would put together their own policies and procedures that were then approved by the state. Now all seed to sale tracking follows state requirements and is handled by a company called METRC.

The new regulations for marijuana sales are now...

935 CMR 500 (Adult use)  
935 CMR 501 (Medical)

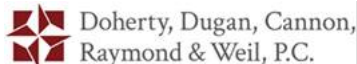
If there is any particular information about the METRC process that the town would like, we'll pull that together and send it over. But the main point is that companies are no longer allowed to formulate their own policies and procedures – they all must use the METRC process.

Happy to discuss if you have any questions

Thanks.

Ted

**Edward V. Cannon, Jr., Esq.**



124 Grove Street, Suite 220  
Franklin, MA 02038

WEB: [www.ddcrwlaw.com](http://www.ddcrwlaw.com)  
TEL: 508-541-3000 x218  
FAX: 508-541-3008  
MOB: 508-735-8852  
[EVC@ddcrwlaw.com](mailto:EVC@ddcrwlaw.com)

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**From:** Susan Affleck-Childs <sachilds@townofmedway.org>  
**Sent:** Tuesday, October 19, 2021 8:44 AM  
**To:** Edward V. Cannon <evc@ddcrwlaw.com>  
**Subject:** RE: Phytopia decision

Also need: A copy of the policies/procedures for the transfer, acquisition, or sale of medical marijuana between approved RMMF's in compliance with 105 CMR 725.105(b) (2).

[Susy](#)

---

**From:** Susan Affleck-Childs  
**Sent:** Tuesday, October 19, 2021 8:20 AM  
**To:** Ted Cannon <[EVC@DCDCLAW.com](mailto:EVC@DCDCLAW.com)>  
**Subject:** Phytopia decision

Hi,

I am working on the decision. One of the special permit requirements is that evidence is provided that the applicant has the right to use the site, such as a lease.

Is there a lease between property owner Medway Flower LLC and Phytopia, Inc. as the tenant? Please forward to me.

Thanks.

Susan E. Affleck-Childs  
Planning and Economic Development Coordinator  
Town of Medway  
155 Village Street  
Medway, MA 02053  
508-533-3291



### **Board Members**

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



Medway Town Hall  
155 Village Street  
Medway, MA 02053  
Phone (508) 533-3291  
Fax (508) 321-4987  
Email: [planningboard@townofmedway.org](mailto:planningboard@townofmedway.org)  
[www.townofmedway.org](http://www.townofmedway.org)

## **TOWN OF MEDWAY**

COMMONWEALTH OF MASSACHUSETTS

### **PLANNING AND ECONOMIC DEVELOPMENT BOARD**

Revised draft - October 22<sup>5</sup>, 2021

[Attorney Ted Cannon edits and comments](#)

### ***Recreational Adult Use Marijuana Special Permit Non-Retail Registered Medical Marijuana Facility Special Permit with Conditions***

**Decision Date:** \_\_\_\_\_

**Name/Address of Applicant/Permittee**

Phytopia, Inc.  
25 Newbury Street  
Peabody, MA 01960

**Name/Address of Property Owner:**

Medway Flower, LLC  
990 Paradise Road  
Swampscott, MA 01907

**Location:** 6 Industrial Park Road

**Assessors' Reference:** 33 – 004

**Zoning District:** West Industrial

**Site Plan:** *Industrial Park Road*, dated April 1, 2021, last revised October 12, 2021, prepared by William Sparages Engineers, Planners and Surveyors of Middleton, MA. The architectural drawings dated April 6, 2021 were prepared by Anderson Porter Design of Cambridge, MA.



**I. PROJECT DESCRIPTION** - The Applicant seeks a Recreational (Adult Use) Marijuana Establishment special permit and a Non-Retail Registered Medical Marijuana Facility special permit pursuant to Sections 8.9 and 8.10 of the Medway *Zoning Bylaw* for a proposed marijuana cultivation and processing facility at 6 Industrial Park Road. NOTE – The Applicant has also applied to the Planning and Economic Development Board for Major Site Plan Approval, a Reduced Parking Special Permit, and a Groundwater Protection Special Permit. However, this decision does not pertain to those three applications which are still pending. The property also includes wetlands resources which are under the jurisdiction of the Medway Conservation Commission for an Order of Conditions and a Land Disturbance Permit.

The Applicant proposes to use the existing 53,128 sq. ft. industrial manufacturing building at 6 Industrial Park Road and construct a 2-story addition (total of 66,238 sq. ft.) to the existing building for the cultivation, manufacturing, processing, and packaging of marijuana for medical use and adult recreational use and the delivery of such products off site to retail marijuana establishments in other communities. A retail marijuana operation at this location is NOT proposed.

The planned scope of work includes interior renovations to the existing building, construction of the addition, improvements to the access/egress driveways, installation of curbing, parking area improvements, landscaping, lighting, installation of and improvements to stormwater drainage facilities, and remediation of site contamination by the previous owner. The planned work is shown on a plan titled *Industrial Park Road*, dated April 1, 2021, last revised October 12, 2021, prepared by Williams & Sparages Engineers, Planners and Surveyors of Middleton, MA. The architectural drawings dated April 6, 2021 were prepared by Anderson Porter Design of Cambridge, MA.

The applicant has requested the Board to act on these two special permit applications separate from the related applications for Major Site Plan Approval, a Reduced Parking Special Permit, and a Groundwater Protection Special Permit. The Board's usual procedure is to review and act on all related applications together. As an accommodation to the Applicant, the Board has agreed to consider these two special permit applications separately, while the other applications are still pending.

**II. VOTE OF THE BOARD** – After reviewing the application and information gathered during the public hearing and review process, including statements of the Applicant and its representatives, comments offered by the public, and comments provided by the Board's consultants and Town staff, the Medway Planning and Economic Development Board, on \_\_\_\_\_, on a motion made by \_\_\_\_\_ and seconded by \_\_\_\_\_, voted to \_\_\_\_\_ with CONDITIONS as specified herein a special permit to operate a Recreational (adult use) Marijuana Establishment and a Non-Retail Registered Medical Marijuana Facility at 6 Industrial Park Road in Medway, MA.

The vote was \_\_\_\_\_ by a vote of \_\_\_\_ in favor and \_\_\_\_ opposed.

**Planning & Economic Development Board Member**

**Vote**

Jessica Chabot  
Richard Di Iulio  
Matthew Hayes  
Andy Rodenhiser  
Robert Tucker



### **III. PROCEDURAL HISTORY**

- A. May 12, 2021 – Marijuana special permits application filed with the Board; filed with the Town Clerk on May 19, 2021
- B. May 19, 2021– Public hearing notice filed with the Town Clerk and posted at the Town of Medway web site.
- C. May 19, 2021 - Public hearing notice mailed to abutters by certified sent mail.
- D. May 24 and June 1, 2021 - Public hearing notice advertised in *Milford Daily News*.
- E. June 8, 2021 - Public hearing commenced. The public hearing was continued to June 22, July 13, July 27, August 10, August 24, September 28, and October 26, 2021 and \_\_\_\_\_ when a decision was rendered.

### **IV. INDEX OF DOCUMENTS**

- A. The following documents were provided at the time the marijuana special permits application was filed with the Board:
  - Marijuana Special Permits application dated April 30, 2021 with Project Description (along with applications for major site plan review, reduced parking special permit, and a groundwater protection district special permit)
  - Phytotherapy Odor Control Approach, received May 12, 2021, prepared by BLW Engineers
  - 4-12-21 letter from Andy Carballeira, Acentech re: noise mitigation plan
  - 5-10-21 letter from Kevin Doherty of Knoll Environmental re: groundwater contamination
  - 4-9-21 Interest Disclosure Attestation for Phytopia
  - Site Plan dated 4-1-21 by William Sparages Engineers Planners and Surveyors of Middleton, MA
  - Parking Evaluation dated 5-12-21 from MDM Transportation Consultants
- B. During the course of the review, a variety of other materials were submitted to the Board by the Applicant and its representatives and consultants:
  - Parking memorandum from attorney Ted Cannon dated 7-8-21
  - Groundwater protection district special permit memorandum from attorney Ted Cannon dated 8-5-21
  - Noise Mitigation Plan by Acentech, updated 7-9-21
  - Letter from attorney Ted Cannon dated 7-22-21 in response to the 7-1-21 Tetra Tech parking and traffic review letter
  - Memorandum from Erik Gath, BLW Engineers, Inc. in response to the odor mitigation review letter dated 6-16-21 from Straughan Forensic
  - Email communication from Dan Dumais, MDM Transportation Consultants, dated 8-11-21 re: Fire Department's review of turning requirements on the site.
  - Updated site plan dated 10-12-21 by William Sparages Engineers Planners and Surveyors



- Letter dated 10-12-21 to the PEDB from Chris Sparages to summarize site plan changes resulting from previous public hearings, consultant review letters, and feedback from the PEDB, Design Review Committee and the Conservation Commission.
- Letter dated 10-12-21 to the PEDB from Chris Sparages in response to the June 8, 2021 technical letter from Tetra Tech.
- Email dated 10-18-21 from attorney Ted Cannon re: staff's request for information on the Applicant's policies/procedures for the transfer, acquisition, or sale of medical marijuana between approved RMMF's in compliance with 105 CMR 725.105(b) (2).

C. During the course of the review, a variety of other materials were submitted to the Board by the Board's consultants and Town staff:

- Plan review letter to the Board from Steve Bouley, P.E. Tetra Tech, dated 6-8-21
- Odor mitigation plan review letter from Bruce Straughan, Straughan Forensic dated 6-16-21
- Parking and Traffic Review letter to the Board from Courtney Sudak, P.E. Tetra Tech, dated 7-1-21
- Noise mitigation review letter to the Board from Jeff Komrower, Noise Control Engineering, dated 7-7-21
- Cultivation Facility Parking Guidelines Summary prepared by Tetra Tech, dated 7-13-21
- Email communication from Fire Chief Jeff Lynch dated 8-4-21 regarding Phytopia's security and emergency plans

D. Abutter Comments

- Email communication dated June 7, 2021 (with attachments) from resident John Lally, 35 Coffee Street
- Email communication dated June 21, 2021 (with attachments) from resident Leigh Knowlton, 14 Green Valley Road

E. Other Documentation

1. Mullins Rule Certification dated August 2, 2021 for Board member Matthew Hayes pertaining to the July 27, 2021 hearing.
2. Mullins Rule Certification dated August 24, 2021 for Board member Robert Tucker pertaining to the August 10, 2021 hearing.

V. **TESTIMONY** – During the course of the public hearing, the Board heard and received verbal testimony from:

- Steve Bouley, P.E, Tetra Tech – Commentary throughout the public hearing process
- Courtney Sudak, P.E. Tetra Tech – Commentary related to parking and traffic
- Jeff Komrower of Noise Control Engineering LLC, acoustic sound consultants for the Town.
- Andy Carballeira, Acentech Inc., acoustic sound consultant for the Applicant.
- Chris Sparges, Sparges Engineering Consultants, engineering consultant for the Applicant.



- Edward (Ted) Cannon, Doherty Dugan Cannon Raymond and Weil, P.C., attorney for the Applicant
- Brian Anderson of Anderson Porter Design, architect for the Applicant
- Kevin Doherty of Knoll Environmental LLC, environmental consultant for the Applicant
- Peter D’Agostino, Tenax Strategies, Inc. regulatory consultant for the Applicant
- Daniel Dumais, P.E. MDM Transportation Consultants, traffic consultant for the Applicant
- Former Norfolk County Sheriff Jerry McDermott and Retired State Police Major Pat Russolillo, security consultants for the Applicant
- Medway Conservation Agent Bridget Graziano
- Resident John Lally, 35 Coffee Street
- Resident Leigh Knowlton, 14 Green Valley Road

## VI. FINDINGS

The Planning and Economic Development Board, at its meeting on \_\_\_\_\_, on a motion made by \_\_\_\_\_ and seconded by \_\_\_\_\_, voted to \_\_\_\_\_ the following **FINDINGS** regarding the special use permit application for a marijuana facility at 6 Industrial Park Road. The motion was \_\_\_\_\_ by a vote of \_\_\_\_\_ in favor and \_\_\_\_\_ opposed.

### GENERAL FINDINGS from PUBLIC HEARING TESTIMONY

#### (1) NOISE ISSUES

- A. Pursuant to Section 7.3.C.2, of the *Zoning Bylaw*, the “Maximum permissible sound pressure levels measured at the property line nearest to the noise source for noise radiated continuously from the noise source between 10 PM and 7 AM shall be as follows.”

Frequency Band (Cycles per Second)	Sound Pressure Level (Decibels 43 0.0002 Dyne/CM2)
2-72	69
75-150	54
150-300	47
300 - 600	41
600 – 1,200	37
1,200 – 2,400	34
2,400 - 4,800	31
4,800 – 10,000	28

“For noise levels between 7 A.M. and 10 P.M., and if the noise is not smooth and continuous, the following corrections shall be added to each of the decibel levels given above:

- Daytime operation only: +5
- Noise source operated at less than 20% of any 1-hour period: +5”

- B. Earlier in 2019, during the Board’s review of the recreational marijuana establishment special permit application for 2 Marc Road, the Board along with the Board’s sound consultant (Noise Control Engineering) and that applicant’s

**Commented [BSA1]:** Isn’t Phytopia subject to the new Section 7.3 because the special permit was not issued prior to the first notice of the public hearing on the by-law amendment? So should there be a condition that applicant must comply with the new by-law if it is passed by TM and approved by AG?

**Commented [EVC2R1]:** My understanding is a change to the noise bylaw was tabled in the spring. If it has come forward again, when was the date of the first notice of the first public hearing of the PEDB to consider the new bylaw?



sound consultant (Acentech, Inc.) agreed that the frequency band range form of noise measurement specified in the Medway *Zoning Bylaw* is outdated. The consultants concurred that noise measurements in accordance with the *Zoning Bylaw*'s standards are neither ideal nor typical today. The Board acknowledged that frequency band ranges presently included in the *Zoning Bylaw* do not accurately reflect contemporary sound measurement standards and provide challenges to interpretation and enforcement of the applicable provisions of the *Zoning Bylaw*. The Board was willing to allow a conversion to more modern standards, but only as long as the conversion was more, not less restrictive.

Noise Control Engineering converted the *Zoning Bylaw*'s frequency band noise levels to octave bands for noise measurement purposes. The method used was based on the frequency span of the octave bands and is consistent with the conversion documented in the 1980 EPA document 905-R-80-117 *Noise Legislation Trends and Implications*. The table below shows the conversion of the *Bylaw*'s frequency band noise standards to the modern octave band noise standards with the nighttime and daytime adjustments.

Octave Band Center Frequency (Hz)	Medway <i>Zoning Bylaw</i> Sound Pressure Level, (dB re 20 micro-Pa) Nighttime	Medway <i>Zoning Bylaw</i> Sound Pressure Level, (dB re 20 micro-Pa) Daytime
63	67	72
125	55	60
250	48	53
500	42	47
1000	38	43
2000	35	40
4000	32	37
8000	28	33

- C. The Applicant's preliminary noise mitigation plan, prepared by Acentech of Cambridge, MA, dated April 12, 2021 was submitted to the Board with the special permit application. The Board retained Noise Control Engineering (NCE) of Billerica, MA to review that preliminary noise mitigation plan. NCE provided a memorandum dated July 7, 2021 with comments and recommendations of additional information needed.
- D. The Applicant submitted an updated noise mitigation plan, prepared by Acentech, dated July 9, 2021. **SUMMARIZE**
- E. The Board's noise consultant Noise Control Engineering reviewed the revised noise mitigation plan and provided another review memorandum dated August 2, 2021. **SUMMARIZE**
- F. The Board is in receipt of written and verbal testimony of abutters and nearby residents in the vicinity of 6 Industrial Park Road expressing concerns with respect to the potential for excessive noise with the 6 Industrial Park Road facility.

**Commented [EVC3]:** Need Acentech to provide these summaries



G. The Board understands that, as part of the permitting with the Massachusetts Cannabis Control Commission, an applicant is required to comply with the MA DEP Noise Policy and associated Noise Regulations (310 CMR 7.10). These regulations state that a source of sound violates the regulation if the source:

1. Increases the broadband sound level by more than 10dB above ambient, or
2. Produces a “pure tone” condition which occurs when any octave band center frequency sound pressure level exceeds the two adjacent center frequency sound pressure levels by 3 decibels or more.

The MA DEPT Noise Policy and Regulations state that these criteria are measured both at the property line and at the nearest inhabited residence. “Ambient” is defined as the background A-weighted sound level that is exceeded 90% of the time (the  $L_{90}$  metric) measured during equipment operating hours.

**NOTE – The Board has not revisited the noise mitigation measures.**

(2) **ODOR ISSUES**

A. Pursuant to Section 7.3.D. of the *Zoning Bylaw*, “In all districts, no emissions of odorous gases or odoriferous matter in such quantities as to be discernible outside the property line shall be permitted. Any industrial process which may involve the creation and/or emission of any odors shall be provided with a secondary safeguard system. No objectionable odor greater than that caused by 0.001201 oz. per thousand cubic feet of hydrogen sulfide or any odor threshold as defined in Table III in Chapter 5 of Air Pollution Abatement Manual (copyright 1951 by manufacturing Chemists Assoc., Inc., Washington, DC) shall be permitted.” The applicant also is required by the Cannabis Control Commission to comply with 310 CMR 7.00 regarding odor control.

B. The Applicant’s preliminary odor mitigation plan was submitted to the Board on May 12, 2021 with the special permit application. It was prepared by BLW Engineers of Littleton, MA.

C. The Board retained Straughan Forensic, LLC of Arvada, CO, to review that preliminary odor control approach. Straughan Forensic provided review letter dated June 16, 2021 with comments and recommendations of additional information needed.

D. BLW Engineers provided a letter dated July 9, 2021 in response to the Straughan Forensic review comments.

**NOTE – The Board has not revisited the odor mitigation measures.**

**REGISTERED MEDICAL MARIJUANA FACILITIES SPECIAL PERMIT FINDINGS**  
**(Sub-Section 8.9 of the Zoning Bylaw)**

- (1) Section 8.9.E(1) and (2) and (3) and (5). The registered medical marijuana facility will be contained within an established building located at 6 Industrial Park Road and its associated addition which are located in the East Industrial zoning district where



such facilities may be authorized by special permit. This is and will be a permanent stand-building which does not contain any residential uses or medical doctors' offices or offices of other professional practitioners' authorized to prescribe the use of medical marijuana. The site will include driveways, parking areas, utility systems, sidewalks and stormwater management facilities. The facility is not located within 500 feet of any lot with an existing public or private school serving students in grades K-12. Retail sales are prohibited at this site.

- (2) Concurrent with the Board's review of the special permit application, the Board is also reviewing a major site plan for the property, which is still pending before the Board.
- (3) Section 8.9.E (4). The hours of operation are as prescribed in Special Condition \_\_\_\_.
- (4) Section 8.9.E(6) and (7) As conditioned herein and as required by the *Zoning Bylaw*, smoking, burning and consumption of marijuana or marijuana-infused products on the premises is not allowed, and drive-through service is not allowed.
- (5) As conditioned in Specific Condition \_\_\_\_, any signage for the facility shall comply with Section 8.9.F and Section 7.2 of the *Zoning Bylaw*.
- (6) As conditioned in Specific Condition \_\_\_\_, the Permittee shall provide the contact information for management staff and key holders of the facility to Town officials as indicated in Section 8.9.G.
- (7) As conditioned in Specific Conditions \_\_\_\_, the Board finds that the operation of a registered medical marijuana facility will not create a nuisance to abutters or to the surrounding area or create any hazard. Both the Applicant and the Town have contracted with noise and odor consultants. The Applicant has prepared a noise mitigation plan which has been reviewed by the Town's noise consultant. It will be implemented in accordance with Specific Condition \_\_\_\_ herein. The Applicant has also provided an odor control plan which will be implemented in accordance with Special Condition \_\_\_\_ herein.

The Board is requiring on-going noise and odor monitoring to ensure compliance with the Town's requirements. See Special Conditions \_\_\_\_ and \_\_\_\_\_. As conditioned herein, any non-compliance will be addressed through zoning enforcement.

#### WHAT TO SAY ABOUT THE CONTAMINATION ISSUE:

- (8) As conditioned in Specific Condition \_\_\_\_, the facility shall meet the Openness of Premises requirements of Section 8.9.I. No activities within the building or displays of products will be visible from the exterior of the building. The front of the building, which includes the primary entrance to the facility, is fully visible from the site's frontage on Industrial Park Road. All operations will be within the restricted building.
- (9) This special permit authorizes only the cultivation, processing and packaging of marijuana for medical use. Retail sale of medical marijuana is not allowed in this zoning district.
- (10) As conditioned in Specific Condition \_\_\_\_, copies of required licenses and permits issued by the Commonwealth will be provided upon approval by the Massachusetts

**Commented [EVC4]:** 24/7 – As discussed with the parking, the employees will be split into 2 shifts separated by 30 mins. to reduce parking overlap. A third shift may be required on an as needed basis depending on the crop status

**Commented [EVC5]:** Environmental clean up will be ongoing in accordance with MA DEP requirements



Cannabis Control Commission. The registered medical marijuana facility will be operated in strict compliance with Massachusetts Cannabis Control Commission regulations.

- (11) The special permit application and associated documents include the submittals required in Section 8.9 J.4 of the Zoning Bylaw.

- Medway Flower, LLC is the record owner of the property as shown on the Medway Assessor's records as documented in a quitclaim deed from Alexander S. Athanas of Peabody, MA recorded at the Norfolk County Registry of Deeds, Book 36836, Pages 269 and 270, on May 30, 2019.

The Applicant, Phytopia, LLC will be a tenant in the subject property and building pursuant to a lease dated [December 31, 2020](#), with Medway Flower LLC. Accordingly, the Applicant has the right to use the site for a registered marijuana establishment. **DOCUMENTATION NEEDED. Requested 10-19-21.**

- The Applicant has provided a sworn statement disclosing the owner's or other similarly situated individuals' interest in the registered marijuana establishment.
- A certified list of all abutter and parties of interest was provided.
- A site plan was submitted and is under review by the Board, the Conservation Commission and the Town's consultants. A detailed floor plan of the premises showing the functional areas of the facility has also been provided. The facility's security plan including lighting, fencing, gates and alarms was submitted and provided to the Police and Fire Chiefs during the permitting process.
- The Applicant has informed the Board that the policies/procedures for the transfer, acquisition, or sale of medical marijuana between approved RMMF's (seed-to-sale tracking) has been standardized and is now regulated via oversight by the Cannabis Control Commission through METRC, a national cannabis supply chain tracking and monitoring company.
- A comprehensive noise mitigation plan prepared by Acentech, Inc. a qualified acoustical consultant has been provided. It has been reviewed by the Town's noise consultant, Noise Control Engineering. The plan was revised, re-submitted and re-reviewed. It will be implemented in accordance with Specific Condition \_\_\_\_herein. The planned noise mitigation measures are expected to enable the facility to meet the Town's noise standards as included in Section 7.3 of the *Zoning Bylaw* and as further specified herein. As conditioned herein, any non-compliance will be addressed through zoning enforcement.
- A comprehensive odor mitigation plan prepared by the Applicant's odor consultant, BLW Engineers, Inc., was submitted to the Board and reviewed by Straughan Forensic, LLC, the Board's odor consultant. The odor mitigation plan was revised, re-submitted and re-reviewed. It will be implemented in



accordance with Specific Condition \_\_\_\_ herein. As conditioned herein, any non-compliance will be addressed through zoning enforcement.

- (13) The registered medical marijuana establishment, as conditioned herein, has been designed to minimize adverse visual or economic impacts on abutters and other parties in interest.
- (20) As conditioned herein, the proposed facility will meet all the permitting requirements of all applicable agencies within the Commonwealth of Massachusetts and will be in compliance with all applicable state laws and regulations.
- (21) As conditioned herein, the Applicant has satisfied the conditions and requirements of this Section 8.9 and Section 3.4 of the *Zoning Bylaw*.

**RECREATIONAL (ADULT USE) MARIJUANA ESTABLISHMENT SPECIAL PERMIT FINDINGS (Sub-section 8.10 of the Zoning Bylaw)**

- (1) Section 8.10.E.(1) and (2). The recreational marijuana establishment will be contained within an established building located at 6 Industrial Park Road and its associated addition which are located in the East Industrial zoning district where such facilities may be authorized by special permit. This is and will be a permanent stand-building which does not contain any residential uses or medical doctors' offices or offices of other professional practitioners' authorized to prescribe the use of medical marijuana. The site will include driveways, parking areas, utility systems, sidewalks and stormwater management facilities. Retail sales are prohibited at this site.
- (2) Section 8.10.E.(4). None of the uses listed in Section 8.10 E. 4. of the *Zoning Bylaw* (public or private school serving students in grades K-12) are located within 500 feet of the site of the proposed facility.
- (3) Section 8.10.E.(5) and (6). As conditioned herein and as required by the *Zoning Bylaw*, smoking, burning and consumption of marijuana or marijuana-infused products on the premises is not allowed, and drive-through service is not allowed.
- (4) As conditioned herein, any signage for the facility shall comply with Section 8.10.F and Section 7.2 of the *Zoning Bylaw*.
- (5) As conditioned herein, the Permittee shall provide the contact information for management staff and key holders of the facility to Town officials.
- (6) As conditioned herein, the Board finds that the operation of the recreational marijuana establishment will not create a nuisance to abutters or to the surrounding area **or create any hazard**. Both the Applicant and the Town have contracted with noise and odor consultants. The Applicant has prepared a noise mitigation plan which has been reviewed by the Town's noise consultant. It will be implemented in accordance with Specific Condition \_\_\_\_herein. The Applicant has also provided an odor control plan which will be implemented in accordance with Special Condition \_\_\_\_herein.

The Board is requiring on-going noise and odor monitoring to ensure compliance with the Town's requirements. See Special Conditions \_\_\_\_ and \_\_\_\_ E. As conditioned herein, any non-compliance will be addressed through zoning enforcement.



- (7) The existing building meets the requirements for “openness of premises” since no activities within the building or displays of products are visible from the exterior of the building and the front of the building, which includes the primary entrance to the facility, is fully visible from the site’s frontage. All operations will be within the restricted building
- (8) The special permit authorizes only the following adult recreational marijuana establishment activities: cultivation, manufacturing, processing and packaging of marijuana and marijuana products, and the transport and delivery of such to other recreational marijuana establishments. Retail sales and marijuana social establishments are not allowed pursuant to the *Zoning Bylaw*.
- (9) As conditioned herein, copies of required licenses and permits issued by the Commonwealth will be provided upon approval by the Massachusetts Cannabis Control Commission. The recreational marijuana operation will be operated in strict compliance with Massachusetts Cannabis Control Commission regulations.
- (10) Medway Flower, LLC is the record owner of the property as shown on the Medway Assessor’s records as documented in a quitclaim deed from Alexander S. Athanas of Peabody, MA recorded at the Norfolk County Registry of Deeds, Book 36836, Pages 269 and 270, on May 30, 2019.

The Applicant, Phytopia, LLC will be a tenant in the subject property and building pursuant to a lease dated \_\_\_\_\_, with Medway Flower, LLC. Accordingly, the Applicant has the right to use the site for a registered marijuana establishment.

- (11) The Applicant has provided a sworn statement disclosing the owner’s or other similarly situated individuals’ interest in the registered marijuana establishment.
- (12) A certified list of all abutter and parties of interest was provided.
- (13) A site plan was submitted and is under review by the Board, the Conservation Commission and the Town’s consultants. A detailed floor plan of the premises showing the functional areas of the facility has also been provided. The facility’s security plan including lighting, fencing, gates and alarms was submitted and provided to the Police and Fire Chiefs during the permitting process.
- (14) The Applicant has informed the Board that the policies/procedures for the transfer, acquisition, or sale of medical marijuana between approved RMMF’s (seed-to-sale tracking) has been standardized and is now regulated via oversight by the Cannabis Control Commission through METRC, a national cannabis supply chain tracking and monitoring company.
- (15) A comprehensive noise mitigation plan prepared by the Applicant’s noise consultant, Acentech, Inc. was submitted and reviewed by Noise Control Engineering, the Board’s noise consultant. The plan was revised, re-submitted, and re-reviewed. The planned noise mitigation measures are expected to enable the facility to meet the Town’s noise standards as included in Section 7.3 of the *Zoning Bylaw* and further clarified herein. As conditioned herein, any non-compliance will be addressed through zoning enforcement.



- (16) A comprehensive odor mitigation plan prepared by the Applicant's odor consultant, BLW Engineers, Inc., was submitted to the Board and reviewed by Straughan Forensic, LLC, the Board's odor consultant. As conditioned herein, any non-compliance will be addressed through zoning enforcement.
- (17) The adult recreational marijuana establishment, as conditioned herein, has been designed to minimize adverse visual or economic impacts on abutters and other parties in interest. ~~No changes in the existing building or site are proposed other than the described site improvements and possible additional measures to address potential noise and odor impacts if such occur in the future.~~
- (18) As conditioned herein, the proposed facility will meet all the permitting requirements of all applicable agencies within the Commonwealth of Massachusetts and will be in compliance with all applicable state laws and regulations.
- (19) As conditioned herein, the Applicant has satisfied the conditions and requirements of this Section 8.10 and Section 3.4 of the *Zoning Bylaw*.

**GENERAL SPECIAL PERMIT FINDINGS** (Sub-section 3.4 of the *Zoning Bylaw*)

- (1) The proposed site is an appropriate location for the proposed use.  
*Sections 8.9 and 8.10 of the Zoning Bylaw and Table 1 – Schedule of Uses specifies that registered medical marijuana facilities and non-retail recreational marijuana establishments are allowed by special permit in the East and West Industrial zoning districts. The subject site at 6 Industrial Park Road is located within the East Industrial zoning district and is therefore an eligible location for the proposed use. Further, the site is not located within 500 feet of any of the uses from which marijuana establishments are prohibited (existing public or private school serving students in grades K-12). The site includes an existing industrial building constructed in 1973.*
- (2) Adequate and appropriate facilities will be provided for the operation of the proposed use.  
*The recreational and medical marijuana cultivation and processing uses will occur within the existing industrial building at 6 Industrial Park Road and a planned addition. The project has been reviewed by the Town's engineering, noise and odor consultants. This special permit is conditioned on the Permittee's receipt of major site plan approval, a reduced parking special permit, and a groundwater protection special permit which have yet to be issued.*
- (3) The proposed use as developed will not create a hazard to abutters, vehicles, pedestrians or the environment.

**How to Answer this?**

- (4) The proposed use will not cause undue traffic congestion or conflicts in the immediate area.

**We need to insert some language here.** *The proposed facility is expected to have up to 87 employees. The planned parking is for 92— ~~vehiele~~spaces. As the facility will*

**Commented [BSA6]:** Reference the fact of no retail sales; will be subject to requirements of the Major Site Plan review.



*not have a retail operation, non-employee traffic to the site will be minimal. The Industrial Park Road system is adequate to handle the routine employee traffic. The site's access is from Main Street/Route 109, a major east-west arterial roadway, so there is no traffic impact on local residential roadways.*

- (5) The proposed use will not be detrimental to the adjoining properties due to lighting, flooding, odors, dust, noise, vibration, refuse materials, or other undesirable visual, site or operational attributes of the proposed use.

**We need to insert some language here that it tied to future site plan decision.** The applicant, as a condition of receiving these special permits prior to completion of the review of the Major Site Plan application, has agreed that the conditions imposed by the Major Site Plan decision will also apply to this special permit decision.

- (6) The proposed use as developed will not adversely affect the surrounding neighborhood or significantly alter the character of the zoning district.

*The proposed use is manufacturing and is therefore consistent with the character of the East Industrial Zoning District in which the subject property is located. This application proposes to produce marijuana for medical and adult recreational use within the existing building and the planned addition. The proposed manufacturing use will not significantly alter the character of the East Industrial zoning district.*

*The Board heard testimony from residential abutters and neighbors about their concerns regarding adverse noise and odor conditions which may emanate from the proposed facility. The Board contracted with outside consultants specializing in noise and odor control to review and provide guidance as to how to minimize potential noise and odors. The final site plan will include extensive and rigorous measures to ensure that the impacts are minimal at best. The Applicant will be held to the environmental standards included in Section 7.3 of the Zoning Bylaw. The Cannabis Control Commission requires its Applicants to also meet the MA DEP noise standards. Measures to address other types of potential impacts (lighting, flooding, dust, vibration, refuse materials, etc.) will also be included in the site plan decision. As conditioned herein, the Board finds that reasonable measures will be taken such that this particular industrial use will not adversely affect the surrounding neighborhood.*

- (7) The proposed use is in harmony with the general purpose and intent of this Zoning Bylaw.

*The Recreational Marijuana section of the Zoning Bylaw (Section 8.10) was adopted by the Town in May 2018 with the specific intent of allowing the establishment of non-retail recreational marijuana establishments at limited locations in Medway. The stated purpose of Section 8.10 is to address possible adverse public health and safety consequences and impacts on the quality of life related to this type of facility by providing for them in appropriate places and under strict conditions. As the proposed facility is located within one of the designated zoning districts and has been rigorously reviewed by the Board and its consultants, and as conditioned herein, it meets the purpose of the Zoning Bylaw.*



- (8) The proposed use is consistent with the goals of the Medway Master Plan.

*The existing facility and the expanded use of the facility is in compliance with Goals 1 and 6 of the Economic Development Goals and Objectives section of the Medway Master Plan as follows:*

- *Goal 1: Maximize the area's economic resources*
- *Goal 6: Attract new (and retain existing) businesses and increase the industrial/manufacturing base.*

- (9) The proposed use will not be detrimental to the public good.

*As a facility in compliance with state and local law, consistent with the goals of the Medway Master Plan, and as thoroughly conditioned herein, the proposed use will not be detrimental to the public good.*

**VIII. CONDITIONS** The *Special and General Conditions* included in this Decision are to assure that the Board's approval of this special permit is consistent with the *Zoning Bylaw*, and that the comments of various Town boards and public officials have been adequately addressed, and that concerns of abutters and other town residents which were aired during the public hearing process have been carefully considered. These conditions are binding on the Permittee.

#### **SPECIFIC CONDITIONS OF APPROVAL**

- A. All standard requirements included in Sections 8.9 and 8.10 of the *Zoning Bylaw* apply to this special permit. These include but are not limited to:
1. Prior to commencing operations on the property to cultivate and process marijuana for adult recreational and medical uses, the Permittee shall provide the Building Commissioner, Health Agent, Fire Chief, Police Chief, and the Board with a copy of the applicable state marijuana establishment licenses, permits, and approvals from the Massachusetts Cannabis Control Commission.
  2. The Permittee shall provide the Medway Police and Fire Departments, Building Commissioner, and the Board with the names, telephone numbers, and email addresses of all management staff and key holders to whom the Town can provide notice if there are operating problems associated with the establishment.
  3. The Permittee shall provide an annual report of Phytopia LLC to the Board and other Town officials no later than January 31<sup>st</sup> of each year, including a copy of all current state licenses and demonstrating continued compliance with the conditions of this special permit. Any change in ownership of Phytopia, LLC or change in management staff and key holders shall also be reported.
  4. This special permit is not transferrable to another party. It shall remain exclusively with the Permittee, Phytopia, LLC, as the operator of a recreational (adult use) marijuana establishment and a non-retail registered medical marijuana facility on the premises.
  5. Smoking, burning and consumption of marijuana or marijuana infused products on the premises is prohibited.



6. The Permittee shall notify the Building Commissioner, Health Agent, Fire Chief, Police Chief, and the Board in writing within forty-eight hours of the cessation of operation of the marijuana business or the expiration or termination of the license holder's certificates or registration with the Massachusetts Cannabis Control Commission.
  7. The Permittee shall fulfill the *Openness of Premises* requirements as specified in Sections 8.9 and 8.10 of the *Zoning Bylaw*.
- B. Host Community Agreement - There shall be a valid Host Community Agreement with the Town of Medway in effect at all times during the operation of this marijuana establishment.
- C. **Hours of Operation – TO BE DETERMINED**
- D. **Nuisance** – The Permittee shall construct and maintain the property and establishment so as to not create a nuisance to abutters or to the surrounding area, or create any hazard, including but not limited to fire, explosion, fumes, gas, smoke, odors, obnoxious dust, vapors, offensive noise or vibration, flashes, glare, objectionable effluent or electrical interference, which may impair the normal use and peaceful enjoyment of any property, structure, or dwelling in the area.
- E. **Noise Management**
1. The Permittee shall install and maintain at all times effective noise reduction equipment for the property to comply with Section 7.3 of the *Zoning Bylaw* as well as the Massachusetts Department of Environmental Protection (MA DEP) noise requirements as established in 310 CMR 7.10. The Permittee will achieve compliance through industry best practices and suitable noise abatement measures. The Permittee shall ensure proper maintenance of all noise abatement equipment to ensure maximum efficiency and effectiveness and ongoing compliance.
  2. Prior to the issuance of an occupancy permit for the 6 Industrial Park Road facility, the Permittee shall provide the Building Commissioner, Health Agent, and Board with a noise study measuring ambient sound levels without the external mechanical equipment in operation, the sound at each of the 6 Industrial Park Road property boundaries during full operating conditions, and the sound at the locations of existing and expected future sensitive receptors. The purpose is to determine if the facility complies with Section 7.3 of the *Zoning Bylaw* as well as the MA DEP noise requirements as established in 310 CMR 7.10. The Board, Building Commissioner or Health Agent may forward the noise study to the Town's noise consultant for peer review and comment, at the Permittee's expense.
    - a. Establishment of Ambient Noise Levels – Ambient background levels shall be established without the influence of any noise emanating from the CommCan facility at 2 Marc Road and the NeoOrganics facility at 4 Marc Road. If background noise levels at 2 and 4 Marc Road have been previously established prior to operation of the CommCan facility and are acceptable to

**Commented [EVC7]:** 24/7 – Mainly 2 shifts staggered by 30 minutes in between with a possible 3<sup>rd</sup> shift in reserve depending upon crop status

**Commented [EVC8]:** This is excellent and makes sense

**Commented [EVC9]:** Testing before occupancy??

**Commented [EVC10]:** Where, when, how, what kind?

**Commented [EVC11]:** This is something that can't be accomplished, and is something that no other business is subject to. The ambient level is whatever it is based on normal activity. Phyto can't require other business operations to shut down so that Phyto can take sound readings.



the Board, they may be used. If not, new measurements to establish background noise levels will be performed by the Permittee. Any noise sources from 2 and 4 Marc Road that may contribute to background noise levels should be turned off during the attended measurements to establish the background noise levels. If unattended monitoring is used, the noise contribution from 2 and 4 Marc Road can be established by shutting down the noise sources during a specified time period and calculating the difference in L<sub>90</sub> levels during on and off times. If it is not possible to take ambient measurements with the 2 and 4 Marc Road facility shutdowns, ambient measurements should be taken in an area with similar ambient conditions (i.e. similar distance from major roads or other noise sources) which is far enough from the 2 and 4 Marc Road facilities so that the 2 and 4 Marc Road facilities do not significantly influence the measures. If an alternative method for establishing the background levels is proposed, a test plan shall be submitted to the Board for acceptance of the alternative method. The Board may seek guidance from its noise consultant.

Separate background noise levels shall be established for daytime hours (7 am to 9 pm), evening hours ( ) and nighttime hours ( ).

Background noise levels can be established either by attended measurements (with the sample time at each measurement location to be not less than 10 minutes) or by unattended measurements for a period of at least 3 days. It will be sufficient to establish the background noise levels at representative locations at the property line.

- b. Measurement of Operational Noise Levels – The operational sounds measurements will consist of attended daytime and nighttime noise measurements at the facility property line and the sensitive receptors for a period of at least ten minutes. If the equipment is expected to produce higher noise levels at operating conditions other than the full load, those conditions shall be measured as well.

The measurements shall be taken at the same locations as evaluated in the \_\_\_\_\_ Acentech study. These include:

- 
- 

- c. All sound measurements shall be conducted by a qualified acoustical consultant (INCE board certification or equivalent experience) in accordance with industry best practices.
- d. Measurement instrumentation shall comply with Class 1 in accordance with IEC 61678, and should be capable of measuring A-weighted and octave-band sound levels. The acoustic descriptor for reporting shall be the L<sub>90</sub> sound level for background noise levels. If operational data is steady state, the L<sub>90</sub> metric can also be used for operational data. Otherwise the L<sub>eq</sub> or higher metric

**Commented [BSA12]:** How is this to be done? These are owned by a separate entity and may not agree to turn off noise sources.

**Commented [EVC13R12]:** Agreed. Phyto can't comply with this requirement

**Commented [EVC14]:** Sounds like establishing the base ambient noise level?

**Commented [EVC15]:** Where, when, how, what????



should be used. Sound level meters shall be provided with windscreens and their calibration shall be field-checked before and after the measurements.

- e. The Board, Building Commissioner or Health Agent may require the Permittee to implement additional noise mitigation measures if the noise study indicates that the facility is non-compliant with Section 7.3 of the *Zoning Bylaw* or the MA DEP Noise Policy.
3. Approximately six months after beginning operations under this Special Permit, the Permittee shall provide a supplemental noise study. These measurements shall be carried out to the same standards and methods as the initial study. The scope and methods of the study shall be the same as in the initial study described above.

The Permittee shall submit that study to the Building Commissioner, Health Agent and Board so as to determine continued compliance with the *Zoning Bylaw* and any conditions set forth herein as to noise. The Building Commissioner, Health Agent or Board may forward the plan to the Town's noise consultant for review and comment, at the Permittee's expense. The Permittee shall be required to implement additional noise mitigation measures if the facility is non-compliant with the *Zoning Bylaw* and the MA DEP Noise Policy.

4. The Permittee shall annually submit a certification by a registered professional mechanical engineer that there are no changes in the installed mechanical equipment which may impact the noise emanating from the facility. Such certification shall be provided to the Building Commissioner, Health Agent and the Board.
5. The Building Commissioner, in enforcing the conditions contained herein, may require the Permittee to provide additional noise studies by a qualified noise consultant and/or implement additional mitigation measures should legitimate concerns or complaints develop in the future about noise generation from the facility. The Permittee may further be required to address such issues with the Board to its satisfaction.

**Commented [EVC16]:** Test prior to occupancy  
Test again 6 months later??

**Commented [EVC17]:** Test prior to occupancy  
Test again 6 months later  
Test again every year

**Commented [EVC18]:** "No changes" very absolute – routine maintenance will be required regularly. As machines age they will need to be replaced.

**Commented [EVC19]:** What if no one complains about the noise? Why all of these repetitive testing requirements? Will the PEDB consider requiring noise testing in the event that complaints come in? This can eliminate much of Section G

#### F. Odor Management

1. The Permittee shall install and maintain at all times effective odor control technology to remove odors from the facility's exhaust system to comply with Section 7.3 of the *Zoning Bylaw*. The Permittee will complete this through industry best practices and suitable building filtration systems including a secondary safeguard system as required by the *Zoning Bylaw*. The Permittee shall maintain all odor migration equipment to ensure maximum efficiency and effectiveness and ongoing compliance.
2. The presented Odor Control Approach dated \_\_\_\_\_ does not include mechanical drawings for the odor management system (??) At such time as the mechanical drawings are available, they shall be submitted to the Board for review by the Board's odor consultant, at the Permittee's expense, to determine if they comply with the Odor Mitigation Plan.



3. The \_\_\_\_\_ review letter of Straughan Forensic, LLC, the Board’s odor consultant, identifies a number of issues and information missing from the Odor Mitigation Plan. The Straughan Forensic letter dated \_\_\_\_\_ is attached and made a part of this decision. These items shall be fully addressed and included in the odor plans submitted to the Massachusetts Cannabis Control Commission for approval. The submittal to the Cannabis Control Commission shall indicate that the odor control system must comply with Section 7.3 of the *Zoning Bylaw*.
  4. The Permittee shall provide the odor plan approved by the Massachusetts Cannabis Control Commission to the Board if the Cannabis Control Commission requires changes to the previously approved odor plan.
  5. Prior to the issuance of an occupancy permit by the Medway Building Department, the Permittee shall review the approved odor control system as installed with the Building Commissioner and demonstrate that the measures specified in the approved odor control, abatement and mitigation plan including the secondary safeguard system have been implemented. The Permittee shall provide a certification made by a licensed engineer that the odor mitigation measures included in the approved plan have been installed. Additional odor mitigation measures may be required if determined to be necessary by the Building Commissioner.
  6. For each of the two successive years following occupancy, the Permittee shall annually submit a certification by a registered professional engineer that there have been no changes in the mechanical equipment that has been installed to control the odor emanating from the facility. Such certification shall be provided to the Building Commissioner, Health Agent and the Board.
  7. The Building Commissioner, in enforcing the conditions herein, may require additional odor investigations and/or odor mitigation measures should legitimate concerns and complaints develop in the future about odor generation from the facility. Permittee may further be required to address such issues with the Board to its satisfaction.
- G. **Water Use and Conservation**
1. The development is relying on the Town’s public water system and the Town is being held to its Water Management Act Permit with the MA Department of Environmental Protection. The Permittee shall incorporate the following water conservation measures for construction of the development:
    - a. private well water for landscape irrigation
    - b. rain-gauge controlled irrigation systems
    - c. water efficient appliances (toilets, etc.)
  2. The Permittee shall not use Town water for irrigation of the site’s lawn and landscaping.
- H. **Signage** – Any signs shall comply with Section 7.2 of the *Zoning Bylaw* and the respective signage requirements of Sections 8.9 and 8.10.
- I. **Limitations**

**Commented [EVC20]:** The odor plan is approved by the PEDB. The CCC defers to the PEDB on that. So the Board knows and has the plan before the CCC. However, should the CCC require any changes, Phyto will provide those

**Commented [EVC21]:** Can’t operate the system with vegetation until the facility is operational. Confirmation that the odor control system has been constructed in compliance with approved specifications makes sense

**Commented [EVC22]:** Again – maintenance will be ongoing and changes to the equipment must be made to ensure optimal performance

**Commented [EVC23]:** Can odor also be complaint driven? Rather than requiring random reports if there is no issue?

**Commented [BSA24]:** Is this advisable given the contamination issues? Should the applicant be sinking a well?

**Commented [EVC25R24]:** Understand the reasoning for requiring irrigation use. Given the unique features of this location probably best to allow use of town water on a limited basis rather than requiring and using contaminated ground water

**Commented [EVC26]:** Same....



1. This special permit is limited to the operation of a medical and recreational marijuana cultivation and processing establishment at 6 Industrial Park Road. This permit does not authorize operation of a retail outlet for the sale of adult recreational marijuana products or medical marijuana products, or the operation of a marijuana social establishment, or the operation of a marijuana testing facility on the premises.
2. This special permit does not relieve the Permittee from its responsibility to apply for, obtain, pay for, and comply with all other required federal, state and Town permits, licenses and approvals.
3. This special permit approval is subject to all subsequent conditions that may be imposed by other Town departments, boards, agencies or commissions. Any changes to the site plan that may be required by the decisions of other Town boards, agencies or commissions shall be submitted to the Board for review as site plan modifications.
4. This permit does not authorize renovation of the existing property or new construction or site improvements. An approved site plan, groundwater special permit, and a reduced parking special permit are required before any building permits can be issued or site work undertaken.
5. This special permit shall expire on [December 1, 2022](#) if the Permittee has not secured the Board's approval of the associated major site plan, reduced parking special permit, and groundwater protection permit.

**Commented [EVC27]:** Certain limited "white box" and environmental work has been and will continue at this location. This will be ongoing

#### **GENERAL CONDITIONS OF APPROVAL**

- A. **Fees** - Prior to filing the special permit decision with the Town Clerk, the Board requires the Applicant to pay:
1. the balance of any outstanding project review fees owed to the Town for review of the application by the Town's engineering, planning, noise, odor or other consultants;
  2. an advance on fees for the continued review services to be provided by outside noise and odor consultants as approved by the Planning and Economic Development Board;
  3. any other outstanding expenses or obligations due the Town of Medway pertaining to this property, including real estate and personal property taxes and business licenses.
- C. **Restrictions on Construction Activities** — During construction, all local, state and federal laws shall be followed regarding noise, vibration, dust and blocking of Town roads. The Permittee and its contractors shall at all times use all reasonable means to minimize inconvenience to abutters and residents in the general area. The following specific restrictions on construction activity shall apply:
1. ~~Construction Time~~ — Construction work at the site and in the building and the operation of construction equipment including truck/vehicular and machine start-up and movement shall commence no earlier than 7 a.m. and shall cease no later

**Commented [EVC28]:** Suggest adding back these conditions since certain work has been and will continue. If the construction oversite is removed from the permits where will it be given?



~~than 6 p.m. Monday – Saturday. No construction shall take place on Sundays or legal holidays without the advance approval of the Building Commissioner. These rules do not apply to interior construction work such as carpentry, installation of drywall, flooring, electrical and HVAC systems, painting, etc.~~

- ~~2. *Neighborhood Relations* – The Permittee shall notify neighbors in the general area around the site when site work and construction are scheduled to begin and provide a phone number for them to use for questions and concerns that arise during construction.~~
- ~~3. The Permittee shall take all measures necessary to ensure that no excessive dust leaves the premises during construction including use of water spray to wet down dusty surfaces.~~
- ~~4. There shall be no tracking of construction materials onto any public way. Daily sweeping of roadways adjacent to the site shall be done to ensure that any loose gravel/dirt is removed from the roadways and does not create hazardous or deleterious conditions for vehicles, pedestrians or abutting residents. In the event construction debris is carried onto a public way, the Permittee shall be responsible for all clean up of the roadway which shall occur as soon as possible and in any event within twelve (12) hours of its occurrence.~~
- ~~5. The Permittee is responsible for having the contractor clean up the construction site and the adjacent properties onto which construction debris may fall on a daily basis.~~
- ~~6. All erosion and siltation control measures shall be installed by the Permittee prior to the start of construction and observed by the Board's consulting engineer and maintained in good repair throughout the construction period.~~
- ~~7. *Construction Traffic/Parking* – During construction, adequate provisions shall be made on site for the parking, storing, and stacking of construction materials and vehicles. All parking for construction vehicles and construction related traffic shall be maintained on site. No parking of construction and construction related vehicles shall take place on adjacent public or private ways or interfere with the safe movement of persons and vehicles on adjacent properties or roadways.~~
- ~~8. *Noise* - Construction noise shall not exceed the noise standards as specified in the *Zoning Bylaw*, SECTION 7.3. ENVIRONMENTAL STANDARDS USE REGULATIONS, Sub-Section CB.2. Noise Area Standards, Paragraph 2. b).~~
- ~~9. *Stormwater Management* – During construction, the Permittee shall maintain the site and installed stormwater management facilities in accordance with the Construction Period Stormwater Operation and Maintenance Plan included in *Stormwater Management Design and Runoff Calculations Report for 4 Mare Road*, dated July 24, 2019, last revised December 13, 2019 prepared by DGT Associates Surveying and Engineering.~~

D. **Construction Oversight**

- ~~1. *Pre Construction Meeting* – At least seven days prior to the start of any site preparation or construction, the Applicant shall meet with the Town's Consulting~~

Commented [EVC29]: Also add back



~~Engineer, the Planning and Economic Development Coordinator, the Medway Department of Public Works, the Medway Conservation Agent (if applicable), the contractors and Applicant's project engineer for a pre construction meeting. The construction schedule shall be reviewed and the procedures for inspections discussed.~~

## ~~2. Construction Account~~

~~a) Inspection of infrastructure and utility construction, installation of site amenities including landscaping, and the review of legal documents by Town Counsel is required. Prior to plan endorsement, the Permittee shall establish a construction account with the Board. The funds may be used at the Board's discretion to retain professional outside consultants to perform the items listed above as well as the following other tasks: inspect the site during construction/installation, identify what site plan work remains to be completed, prepare a bond estimate, conduct other reasonable inspections until the site work is completed and determined to be satisfactory, review as-built plans, and advise the Board as it prepares to issue a *Certificate of Site Plan Completion*.~~

~~b) Prior to plan endorsement, the Permittee shall pay an advance toward the cost of these services to the Town of Medway. The advance amount shall be determined by the Board based on an estimate provided by the Town's Consulting Engineer.~~

~~c) Depending on the scope of professional outside consultant assistance that the Board may need, the Permittee shall provide supplemental payments to the project's construction inspection account, upon invoice from the Board.~~

~~d) Any funds remaining in the Permittee's construction inspection account after the *Certificate of Site Plan Completion* is issued shall be returned to the Permittee.~~

~~3. Board members, its staff, consultants or other designated Town agents and staff shall have the right to inspect the site at any time, for compliance with the endorsed site plan and the provisions of this *Decision*.~~

~~4. The Department of Public Works will conduct inspections for any construction work occurring in the Town's right of way in conjunction with the Town of Medway Street Opening/Roadway Access Permit.~~

~~5. The Permittee shall have a professional engineer licensed in the Commonwealth of Massachusetts conduct progress inspections of the construction of the approved site improvements. Inspections shall occur at least on a monthly basis. The engineer shall prepare a written report of each inspection and provide a copy to the Board within 5 days of inspection.~~

## ~~E. On-Site Field Changes~~

~~1. During construction, the Permittee may be authorized to make limited, minor, on-site field changes to the approved plan based on unforeseen site or job conditions;~~

Commented [EVC30]: Add back



~~situations, or emergencies necessitated by field conditions or due to practical considerations. These field changes shall not alter items which may affect the site's compliance with this *Decision* and the *Zoning Bylaw* nor conflict with a specific condition of the *Decision*. Field changes shall not substantially alter the intent, layout or design of the endorsed site plan.~~

- ~~2. Prior to undertaking such field changes, the Permittee and/or contractor shall discuss the possible field changes with the Town's Consulting Engineer and submit a letter and drawings to the Planning and Economic Development Coordinator and the Building Commissioner describing the proposed changes and what conditions, situations, or emergencies necessitate such changes. In accordance with Section 3.5.2.C of the *Zoning Bylaw*, the Building Commissioner may determine that the field change is insubstantial, authorize the change, and so notify the Board. Otherwise, the Board shall review the proposed field changes at a public meeting and determine whether the proposed field changes are reasonable and acceptable based on the unforeseen conditions, situations, or emergencies and whether other options are feasible or more suitable. A written authorization of field change will be provided. Any approved field change shall be reflected in the as-built plan to be provided at project completion.~~

**B. Modification of Decision**

1. Proposed modifications to this *Decision* shall be subject to review by the Board.
3. Any work that deviates from this *Decision* shall be a violation of the *Zoning Bylaw*, unless the Permittee requests approval of a modification pursuant to Section 3.5.2.A.3.c. and such approval is provided in writing by the Board.
3. The request for a modification to a previously approved special permit shall be subject to the same application and review process including a public hearing. Whenever additional reviews by the Board, its staff or consultants are necessary due to a proposed modification, the Permittee shall be billed and be responsible for all supplemental costs including filing fees, review fees and all costs associated with another public hearing including legal notice and abutter notification. If the proposed revisions affect only specific limited aspects of the site, the Board may reduce the scope of the required review and waive part of the filing and review fees.
5. The Board shall issue a modification decision, file such with the Town Clerk, and provide copies to the Building Commissioner and other Town officials and the Permittee. Any modification approved by the Board shall be made a permanent part of the approved special permit documents.

**C. Enforcement**

1. The Board or its agent(s) may use all legal options available to it, including referring any violation to the Building Commissioner/Zoning Enforcement Officer for appropriate enforcement action, to ensure compliance with the special and its Conditions of Approval.



2. The Conditions of Approval are enforceable under Section 3.1. F. of the *Zoning Bylaw* (non-criminal disposition) and violations or non-compliance are subject to the appropriate fine.

#### H. **Performance Security**

1. ~~No occupancy permit shall be granted until the Board has provided a written communication to the Building Commissioner/Zoning Enforcement Officer that the project, as constructed, conforms completely and fully to the approved site plan and that any conditions including construction of any required on and off site improvements, have been satisfactorily completed. OR that suitable security/performance guarantee has been provided to the Town of Medway, to the Board's satisfaction, to cover the cost of all remaining work.~~
2. ~~The Permittee shall propose a form of performance security which shall be of a source and in a form acceptable to the Board, the Treasurer/Collector and Town Counsel. The Board requires that the performance guarantee be accompanied by an agreement which shall define the obligations of the Permittee and the performance guarantee company including:
  - a) the date by which the Permittee shall complete construction
  - b) a statement that the agreement does not expire until released in full by the Board
  - c) procedures for collection upon default.~~
3. ~~The amount of the performance guarantee shall be equal to 100% of the amount that would be required for the Town of Medway to complete construction of the site infrastructure including installation of stormwater management facilities, utilities, services, pedestrian facilities and all site amenities as specified in the approved Site Plan that remain unfinished at the time the performance guarantee estimate is prepared if the developer failed to do so.~~
4. ~~The security amount shall be approved by the Board based on an estimate provided by the Town's Consulting Engineer based on the latest weighted average bid prices issued by the Mass Highway Department. The estimate shall reflect the cost for the Town to complete the work as a public works project which may necessitate additional engineering, inspection, legal and administrative services, staff time and public bidding procedures. The estimate shall also include the cost to maintain the infrastructure in the event the Permittee fails to adequately perform such and the cost for the development of as built plans. In determining the amount, the Board shall be guided by the following formula in setting the sum: estimate of the Town's Consulting Engineer of the cost to complete the work plus a 30% contingency.~~
5. ~~Final release of performance security is contingent on project completion.~~

#### I. **Project Completion**

1. ~~Site plan approval shall lapse after one (1) year of the grant thereof if substantial use has not commenced except for good cause. The work shown on the approved site plan shall be completed by the Permittee or its assignees within two (2) years of the date of plan endorsement. Upon receipt of a written request from the~~



~~Permittee filed at least thirty (30) days prior to the date of expiration, the Board may grant an extension for good cause. The request shall state the reasons for the extension and also the length of time requested. If no request for extension is filed and approved, the site plan approval shall lapse and may be reestablished only after a new filing, hearing and decision.~~

~~2. Prior to issuance of a final occupancy permit, the Permittee shall request a **Certificate of Site Plan Completion** from the Board. The **Certificate** serves as the Board's confirmation that the completed work conforms to the approved site plan and any conditions and modifications thereto, including the construction of any required on and off site improvements. The **Certificate** also serves to release any security/performance guarantee that has been provided to the Town of Medway. To secure a **Certificate of Site Plan Completion**, the Permittee shall:~~

- ~~a) provide the Board with written certification from a Professional Engineer registered in the Commonwealth of Massachusetts that all building and site work has been completed in substantial compliance with the approved and endorsed site plan, and any modifications thereto; and~~
- ~~b) submit an electronic version of an As Built Plan, prepared by a registered Professional Land Surveyor or Engineer registered in the Commonwealth of Massachusetts, to the Board for its review and approval. The As Built Plan shall show actual as built locations and conditions of all buildings and site work shown on the original site plan and any modifications thereto. The As Built Plan shall also show all utilities found during the construction process. The final As Built Plan shall also be provided to the Town in CAD/GIS file format per MASS GIS specifications.~~

- D. **Right to Enter Property** – Board members, its staff, consultants or other designated agents of the Town shall have the right to enter onto the property to ascertain compliance with the terms and conditions of this special permit.
- E. **Recording** - Within thirty days of recording the Decision, the Permittee shall provide the Board and the Building Commissioner with a receipt from the Norfolk County Registry of Deeds indicating that the Decision has been duly recorded, or supply another alternative verification that such recording has occurred.
- F. **Conflicts** –If there is a conflict between this Decision and the *Zoning Bylaw*, the *Bylaw* shall apply.

**IX. APPEAL** – The Board and the Applicant have complied with all statutory requirements for the issuance of this Decision on the terms set forth herein. A copy of this Decision will be filed with the Medway Town Clerk and mailed to the Permittee, and notice will be mailed to all parties in interest as provided in G.L. c. 40A §15.

Any person aggrieved by the decision of the Board may appeal to the appropriate court pursuant to Massachusetts General Laws, Chapter 40A, §17, and shall be filed within twenty days after the filing of this decision in the office of the Medway Town Clerk.

In accordance with G.L. c. 40A, §11, no special permit shall take effect until a copy of the Decision is recorded in the Norfolk County Registry of Deeds, and indexed in the grantor index under the



name of the owner of record, or is recorded and noted on the owner's certificate of title, bearing the certification of the Town Clerk that twenty days have elapsed after the Decision has been filed in the office of the Town Clerk and no appeal has been filed within said twenty-day period, or that an appeal has been filed. The person exercising rights under a duly appealed special permit does so at risk that a court will reverse the permit and that any construction performed under the permit may be ordered undone. The fee for recording or registering shall be paid by the Permittee. A copy of the recorded Decision, and notification by the Permittee of the recording, shall be furnished to the Board.

DRAFT



\_\_\_\_\_ by the Medway Planning & Economic Development Board: \_\_\_\_\_

**AYE:**

**NAY:**

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\_\_\_\_\_  
\_\_\_\_\_

**ATTEST:**

\_\_\_\_\_  
Susan E. Affleck-Childs  
Planning & Economic Development Coordinator

\_\_\_\_\_  
Date

**COPIES TO:** Michael Boynton, Town Manager  
Stephanie Carlisle, DPW Compliance Officer  
Michael Fasolino, Deputy Fire Chief  
Bridget Graziano, Conservation Agent  
Donna Greenwood, Assessor  
Beth Hallal, Health Agent  
Sean Harrington, Deputy DPW Director  
Jeff Lynch, Fire Chief  
Jack Mee, Building Commissioner and Zoning Enforcement Officer  
Pete Pelletier, DPW Director  
Joanne Russo, Treasurer/Collector  
Barbara Saint Andre, Director of Community and Economic Development  
Alan Tingley, Police Chief  
Jeff Watson, Police Department  
Steven Bouley, Tetra Tech  
Edward Cannon  
Phytopia, LLC





**October 26, 2021**

**Medway Planning & Economic Development Board  
Meeting**

**Medway Place Site Plan Public Hearing**

**UPDATED**

- Public Hearing Continuation Notice to 10-26-21
- Explanatory letter from attorney Gareth Orsmond dated 9-30-21 with revised site plan submittal
- Revised site plan dated 9-30-21 by Howard Stein Hudson with Drainage Improvement Plan dated 3-1-21 by Grady Consulting, LLC
- PGC Associates review letter dated 10-7-21
- Tetra Tech review letter dated 10-20-21
- **Letter from attorney Gareth Orsmond dated 10-25-21 in response to TT's 10-20-21 review letter expressing their non-interest in a phasing plan**

**NOTE – The current deadline for the Board to file a site plan decision with the Town Clerk is November 15, 2021.**



## 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



Medway Town Hall  
155 Village Street  
Medway, MA 02053  
Phone (508) 533-3291  
Fax (508) 321-4987  
Email: [planningboard@townofmedway.org](mailto:planningboard@townofmedway.org)  
[www.townofmedway.org](http://www.townofmedway.org)

# TOWN OF MEDWAY

## COMMONWEALTH OF MASSACHUSETTS

### PLANNING AND ECONOMIC DEVELOPMENT BOARD

RECEIVED TOWN CLERK  
OCT 14 '21 PM 4:14

## 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 Medway Place Shopping Plaza Site Plan**  
98, 108 and 114 Main Street  
**Continuation Date -- Tuesday, October 26, 2021 @ 8:15 p.m.**

At its October 12, 2021 meeting, the Planning and Economic Development Board voted to continue the public hearing on the application of Medway Realty LLC of Boston, MA for approval of a major site plan for proposed site improvements at the Medway Place shopping plaza to Tuesday, October 26, 2021 at 8:15 p.m.

Proposed are a series of changes in the layout of and landscaping for the Medway Place parking lot as a result of the recently completed Route 109 improvement project. The proposed parking lot work will align the plaza's parking space layout with the Mass DOT constructed boulevard style main entrance. Also proposed are new stormwater management controls to treat stormwater collected from the parking lot before it is discharged to the Town's municipal storm drain system. Other site improvements will include landscaping and electric vehicle charging stations.

The site plan and landscaping revisions are shown on *Medway Place Site Plan and Landscape Plan* dated October 16, 2019, last revised September 30, 2021 by Howard Stein Hudson of Boston, MA. The *Drainage Improvement Plan for 98, 108 and 114 Main Street* is dated September 7, 2019, last revised March 1, 2021 and was prepared by Grady Consulting, LLC of Kingston, MA. The documents are on file with the Medway Town Clerk and the Community and Economic Development office at Medway Town Hall. The information is also posted at the Planning and Economic Development Board's page at the Town's web site at: <https://www.townofmedway.org/planning-economic-development-board/pages/medway-plaza-site-plan>

The Board welcomes any review comments you wish to provide.

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



**Gareth I. Orsmond**

100 Summer Street, 22<sup>nd</sup> Floor  
Boston, MA 02110

617.488.8181 voice  
617.824.2020 fax  
gorsmond@pierceatwood.com  
www.pierceatwood.com

*Admitted in:* MA, NH

September 30, 2021

**By Electronic Mail**

Town of Medway Planning and Economic Development Board  
c/o Susan Affleck Childs, Planning and Economic Development Coordinator  
Town Hall  
155 Village Street  
Medway, MA 02053

Re: Medway Place, 98, 108, 114 Main Street, Medway, Massachusetts  
Application for Major Site Plan Review

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Dear Chairman Rodenhiser and Board Members:

Enclosed in connection with the above-captioned application, please find the following:

1. A revised site plan entitled “Site Plan for Medway Place, 98, 109, and 114 Main Street (Route 9), Medway, Massachusetts”, dated August 30, 2021, comprising 7 sheets prepared by Howard Stein Hudson, and 4 additional reference plan sheets;
2. A Supplemental Site Plan Submittal dated September 30, 2021;
3. A Master Signage Plan dated September 30, 2021; and
4. A Landscape Maintenance Program dated September 30, 2021.

Thank you in advance for your courtesy.

Very truly yours,



Gareth I. Orsmond



**SUPPLEMENTARY SITE PLAN SUBMITTAL**  
**September 30, 2021**

**MEDWAY REALTY, LLC**  
**SITE PLAN REVIEW APPLICATION DATED OCTOBER 28, 2019**

Medway Realty LLC (“Medway Realty”) provides this supplementary site plan submittal in connection with its revised site plan entitled “Site Plan for Medway Place, 98, 109, and 114 Main Street (Route 9), Medway, Massachusetts”, dated August 30, 2021, comprising 7 sheets prepared by Howard Stein Hudson, and 4 additional reference plan sheets (the “Revised Site Plan”).

**I. SUMMARY OF REVISIONS SINCE JULY 14, 2021**

The Revised Site Plan implements the following changes, among others, as described in more detail in Section II below:

- The plan set includes a cover sheet, and the proposed improvements are now shown on different plan sheets (*e.g.*, layout and materials plan; grading, drainage and utilities plan; and so on).
- The site plan submission includes a master signage plan and a landscape maintenance program.
- Twenty-four Dwarf English boxwoods will be planted in the landscape islands in the southwest part of the parking lot.
- The height of the fence on the west side of the parking lot has been decreased to four feet, and nine Virginia roses will be planted as additional landscaping between the fence and the nearest parking spaces east of the fence.
- Additional areas have been marked for full-depth repaving in the western portion of the parking lot near Main Street and the parking spaces immediately west of the main entrance.
- Five emerald arbutus will be planted to screen the irrigation well equipment.
- To improve traffic circulation, the driveway around the back of the buildings is now a two-way driveway instead of a one-way driveway.
- To avoid potential vehicle conflicts, the double yellow centerline west of the median at the westerly entrance has been removed; that driveway is now one-way traffic.



## **II. RESPONSE TO COMMENTS**

The responses below respond only to those comments that were unresolved as of July 27<sup>th</sup>, 2021, or that were raised by various members of the Planning and Economic Development Board (“PEDB”) in the July 27<sup>th</sup> hearing or by the Design Review Committee (“DRC”) at its August 30<sup>th</sup> meeting.

### **A. LETTER BY PGC ASSOCIATES, LLC, DATED JULY 22, 2021**

- 2. Section 204-5-A of the Site Plan Rules and Regulations requires a cover sheet. The applicant has requested a waiver. However, a cover sheet could consolidate the separate sheets that have been submitted into a cohesive set, as well as list waivers and provide other identifying information.**

**RESPONSE:** Medway Realty has provided a cover sheet.

- 3. Section 204-5-D(8) specifies the contents of a landscape plan. A waiver has been requested. Most of the required information has been presented. A waiver of the requirement for a Landscape Architect may be appropriate, but another requirement that should be complied with is a maintenance program to ensure the viability of the new plants. I haven’t seen a maintenance program, but an irrigation well has been installed to ensure the plants are watered.**

**RESPONSE:** Medway Realty has provided a landscape maintenance program. In addition, the Site Plan now has a separate sheet that shows the landscaping more clearly (Sheet C3.00: Planting Plan).

- 5. Section 205-5-D(14) requires a master signage plan. While new signage is not proposed, one element of the signage plan is “standards for tenant signs.” These could be established. Directional and instructional signage within the parking lot is shown.**

**RESPONSE:** Medway Realty has provided a Master Signage Plan. The DRC commented on the first draft at its August 30, 2021 meeting. The Master Signage Plan includes revisions in response to the DRC’s comments.

- 14. The 19 parking spaces west of Ocean State Job Lot are accessed via a one-way driveway that requires vehicles to exit by traveling the full length of the rear of the buildings. These spaces plus the 44 spaces that are behind the buildings should be limited to employees. The 12 spaces across from the hardware store outdoor display area also appear to be accessible from behind the buildings since it has a 26’ aisle.**



**RESPONSE:** Medway Realty revised the plan to make the driveway at the rear of the buildings a two-way driveway as it exists today. The 20-foot wide passageway between Ocean Space Job Lot and the east building remains a one-way driveway going north. It provides convenient passage to the parking at the rear of the buildings. These changes ensure that vehicles do not have to travel the full length of the rear of the buildings. As a result, the parking spaces will not be limited to employees.

**B. LETTER BY TETRATECH DATED DECEMBER 10, 2019 (REVISED JANUARY 29, 2020, MAY 6, 2021, JULY 21, 2021)**

**SITE PLAN REVIEW.**

**7. A cover sheet has not been provided. (Ch. 200 §204-5.A)**

TT 7/21/21 Update: We recommend the PEDB require a cover sheet as is standard of most projects with multiple plan sheets.

**RESPONSE:** Medway Realty has provided a cover sheet.

**9. An Existing Conditions Sheet has not been provided. However, due to the nature of work proposed, the Plan clearly shows the existing infrastructure on the project site and abutters. A waiver has been requested from this Regulation. (Ch. 200 §204-5.C)**

TT 7/21/21 Update: The Existing Conditions Plan should be included in this plan set as is standard on most projects. This will assist the PEDB and additional reviewers understand the overall scope of work as it relates to existing conditions.

**RESPONSE:** The existing conditions plan is now included in the plan set.

**10. Site grading has not been provided on the Plan. It does not appear this regulation is applicable to this site as existing grades are being maintained at the site. A waiver has been requested from this Regulation. (Ch. 200 §204-5.D.2)**

TT 7/21/21 Update: The Applicant is proposing to install curbed islands with curb breaks which may affect drainage patterns at the site. Proposed contours should be included on the Plans to help understand if stormwater runoff issues will occur. It appears that the proposed islands are situated perpendicular to the contours which may trap runoff at the downhill ends of the island particularly in winter months when snow and ice may block the curb breaks. Additionally, it appears a proposed island to the west of the main entrance is situated over an existing catch basin meant to drain the parking lot which would render it useless.



**RESPONSE:** The curb breaks have been lengthened to two feet instead of one. This will help prevent blockage. In addition, Medway Realty will clear inspect and clear the curb breaks on a regular basis.

CB 10, CB 11 and CB12 have been added to the plans. CB 10 was added to better capture stormwater runoff that might have otherwise been trapped by the expanded landscape island around the monument sign located at the westerly entry. CB 11 and CB 12 replace existing catch basins that are located in proposed planted islands.

The Site Plan set has been updated to include Sheet C2.00: Grading, Drainage and Utilities Plan (the “GDU Sheet”) which shows existing contours and the proposed drainage modifications.

**11. An Erosion and Sediment Control Plan has not been provided. A waiver has been requested from this Regulation. (Ch. 200 §204-5.D.5)**

TT 7/21/21 Update: We recommend the Applicant submit an erosion and sediment control plan as part of this Plan set as the limits of work are spread throughout the site with potential to affect multiple drainage catchments. Additionally, it is our understanding that the MS4CD Permit considered only the drainage improvements that were proposed at that time and not work to the overall site plan. We anticipate these site plans will need to be submitted to DPW for review and potential amendment of the existing MS4CD Permit for the site.

**RESPONSE:** The GDU Sheet shows erosion control measures. Additional details are shown on Sheet C4.00: Details (the “Details Sheet”). Medway Realty provided an erosion and sediment control plan in connection with the MS4CD Permit, as shown on a plan included with this submittal. That plan met the requirements of the MS4CD Permit.

**13. A Site Utilities Plan has not been provided. It does not appear this regulation is applicable to this site as existing utilities will remain. A waiver has been requested from this Regulation. (Ch. 200 §204-5.D.7)**

TT 7/21/21 Update: Work is proposed on this Project related to utilities including light poles and EV charging stations. Additionally, existing utility information should be shown to confirm if trees, signage and light pole bases, that require subsurface installations, are in potential conflict with existing utilities. We do not support this waiver request.

**RESPONSE:** The GDU Sheet shows existing utility information, as well as the relocation of light poles and the electrical lines that will be relocated to beneath the surface. Medway Realty has agreed to provide EV charging stations for 18 vehicles (twice what the site plan regulations



require) over a 5-year period, but these are not part of the immediate improvements. Rather than engage in a paper exercise now, Medway Realty believes that the utility work in connection with the EV charging stations should be addressed through a condition requiring the approval of the PEDB's engineering consultant at the time the EV charging stations are installed. The technology may change over the five-year period.

15. **Applicant is requesting waivers from Ch. 200 §204-5.D.9 through Ch. 200 §204-5.D.20. It does not appear these regulations are applicable to the scope of work for this Project.**

TT 7/21/21 Update: Consistent with prior projects submitted to the PEDB we anticipate a rendering of the Project (Ch. 200 §204-5.D.10) may be required to assist the PEDB and reviewers in understanding the overall aesthetic of the Project after completion. Additionally, confirmation from the fire department that the proposed scope will not inhibit their ability to respond to emergencies at the site (Ch. 200 §204-5.D.18). We support waivers for all other Regulations mentioned in our original comment if required by the PEDB.

**RESPONSE:** The PEDB agreed to waive the requirement for a rendering. Medway Place will follow up with the Planning and Economic Development coordinator regarding the fire department. To date, the fire department's comments have been limited to the passageway between Ocean State Job Lot and the eastern building, the width of the eastern side of the main entrance (which MassDOT's improvements limited to 16 feet instead of 20 feet), and the potential for the larger trees original proposed to interfere with emergency vehicle access. Medway Realty has addressed all of these comments.

#### **ADDITIONAL COMMENTS**

22. **The Applicant has not provided an Erosion and Sediment Control Plan associated with construction activities for the improvements. (Ch. 200 §204-5.D.5)**

TT 5/6/21 Update: Comment unresolved. Refer to comment #21.

**RESPONSE:** See response to Comment No. 11 above.

23. **The scope of pavement restoration is unclear on the plans. During a site visit TT observed that the overall condition of the pavement is in poor condition. We recommend the Applicant mill and overlay the parking lot.**

TT 7/21/21 Update: The Applicant is proposing to pave a portion of the parking lot which appears to be somewhat arbitrarily chosen. Paving will also occur



around all proposed curb at the islands approximately one foot from the edge of curb which is not shown on the plan or in a detail. We expect issues will occur at the joints between the existing deteriorated pavement and the newly paved areas. We recommend, at a minimum, repaving the portions of the parking lot that are receiving new curbed islands to ensure localized low spots, cracking and other deterioration does not impact the proposed work.

**RESPONSE:** The extent of repaving that will be completed initially is shown on Sheet C.100: Layout and Materials Plan (the “Layout Sheet”). At the request of the DRC, Medway Realty expanded the scope of repaving to near the aisle immediately west of the main entrance. On its own initiative, Medway Realty also expanded the scope of repaving in the western part of the parking lot near Main Street. The areas to be repaved initially correspond to areas where there will be the most site disturbance due to stormwater infrastructure and areas that are in fair to poor condition. Additional repaving will be done as the pavement (in those areas not initially repaved) reaches the end of its useful life. Repaving the entire parking lot at this time is not necessary or economically feasible. As stated, if the PEDB wants the entire parking lot paved at once, Medway Realty would look to make simpler changes to the parking lot to address the misalignment caused by the Route 109 project, as were proposed in 2017, and may return at a later date when it is feasible to repave the entire parking lot at one time.

- 24. The Applicant has provided three (3) electric vehicle charging stations in the southwest corner of the parking lot however proposed utility work associated with the charging stations has not been provided on the plans.**

TT 7/21/21 Update: See Update at Comment 13.

**RESPONSE:** See response to Comment No. 13 above.

- 25. We recommend the Applicant provide a plan showing all proposed work to ensure that the proposed curbing and landscaping is not in conflict with the proposed drainage improvements.**

TT 7/21/21 Update: The Applicant has provided a Plan that shows this work however additional information should be shown on the Plan as discussed herein.

**RESPONSE:** See responses to Comment Nos. 10 and 13 above.

- 26. The proposed Site Plan shall be coordinated with the proposed Ace Hardware Outdoor Display Area Plan, specifically the proposed parking and striping for that Project. That project is currently under review by the PEDB.**



**RESPONSE:** The Site Plan incorporates the features of the proposed Rocky's Ace Hardware outdoor display area. Medway Realty will update the Site Plan to reflect any changes in these features due to the approval or disapproval of the Rocky's proposal.

27. **It is unclear why the northern end of the islands located at the western portion of the site are proposed to be striped, but all other islands are curbed. Additionally, stormwater ponding may occur at the southern island of the westernmost parking aisle.**

**RESPONSE:** The northern end of the island on the western portion of the site are not curbed because the curbing would impede emergency vehicle access.

Existing spot grades have been added to the GDU sheet to confirm that positive drainage is provided at the island indicated.

28. **It is unclear why the proposed one-way lane immediately adjacent to the western portion of the main entrance is required. It may presumably be proposed to access the bank and drive-up teller/atm, however this area may be better suited for a larger landscape island to help reduce impervious cover at the site.**

**RESPONSE:** This proposed one-way helps improve site circulation by providing a route to the drive-up teller/ATM and to additional parking that does not require vehicles to travel along the driveway nearest buildings, where pedestrian activity is heaviest. Medway Realty believes that this is a safety amenity and is more important than additional landscaping, given the scope of landscaping already proposed.

29. **The Applicant shall provide details of proposed vertical granite curbing installation, sidewalk, speed bump, pavement section, pavement matching, signage, light bases, etc. All proposed work shall include a standard detail to assist the PEDB and other reviewers understand the true scope of work.**

**RESPONSE:** Details are now shown on the Detail Sheet.

30. **The Applicant is proposing square edges at most outside curb corners which should be radius to avoid tire puncture.**

**RESPONSE:** The outside curb corners are now radius.

31. **Existing dumpsters and other miscellaneous items at the rear of the site have not been shown on the Plans. We anticipate the PEDB may require these to coordinate overall site plan efficiency.**



**RESPONSE:** These were shown on the existing conditions plan that was previously sent to the PEDB and is now included in the plan set for the Site Plan.

**C. COMMENTS BY BOARD MEMBERS AT JULY 27, 2021 HEARING**

- 1. Consider changing the proposed fence design along the property line by Ocean State Job Lot by selecting different materials or color. Consider split rail with more trees planted?**

**RESPONSE:** During the course of site plan review, a comment was made that the fence at Cumberland Farms typified what was acceptable. Medway Realty then changed the fence design to be like the Cumberland Farms fence and has since learned that this fence is PVC but made to look like cedar. Medway proposes the same fencing here for several reasons. First, it prefers this look to the split rail fence. Second, something more than a split rail fence is necessary to discourage the use of Medway Place as a parking lot for the commercial building abutting Medway Place on the west, which does not have much parking upfront and appears to have done little to encourage the use of the parking in the back. The proposed fence will also better protect the landscaping proposed adjacent to the fence on the east, which consists of nine Virginia roses that can grow six-to-eight feet height. The distance between the fence and the nearest parking is 10-to-13 feet and can accommodate this landscaping. At the request of the DRC, Medway Realty agreed to reduce the fence height from 6 feet to 4 feet.

- 2. Consider screening the well water equipment differently.**

**RESPONSE:** At the recommendation of its landscaper, Medway Realty proposes to plant give emerald arborvitae around the well water equipment.

- 3. Consider better screening of the trash containers behind the buildings.**

**RESPONSE:** Under the lease arrangements in effect, tenants are responsible for their own trash containers and arrangements. To the extent practicable given existing lease agreements, Medway Realty will work with tenants to screen/fence in all the trash containers. Medway Realty would agree to a condition that it make a diligent effort to incorporate language regarding proper screening and/or fencing of these areas in future leases and lease renewals.



**4. Consider repaving the entire parking lot.**

**RESPONSE:** See response to Comment No. B.23 above.

**5. Consider placing the wiring for the overhead lights underground.**

**RESPONSE:** As previously stated, Medway Realty will place the overhead light wiring underground when it relocates or replaces an overhead light. Even if one were to apply the site plan regulations, Section 207-18B only provides, “For new construction, no overhead wiring for outdoor lighting is permitted.” Medway Realty maintains that it is undergoing this site plan review voluntarily and that, because Medway Place is a lawfully pre-existing use, Medway Realty can make changes to its parking lot without undergoing site plan review or complying with the current zoning bylaw.

**6. Provide parking calculations for the use.**

**RESPONSE:** As noted, Medway Place is a lawfully pre-existing use and is not subject to the current zoning standards for parking. For informational purposes, however, Medway Realty provides the following:

Under § 7.1.1.E.1.b of the current zoning bylaw, where a parcel includes two or more uses, the minimum parking requirements are the sum of the minimum requirements for each use. The nature of the stores within Medway Place change, but they are generally retail or service use or restaurant use. The requirement for retail and service use is one parking space per 300 sq. ft. The requirement for restaurants is one space for every three seats plus one space for every employee at restaurants.

Based solely on the building footprints, the total square footage of buildings at Medway Place is 117,000± square feet. Applying the one space per 300 sq. ft. standard for retail and service uses, the total required parking would be 390 spaces. Medway Realty intends to maintain the number of spaces that currently exist, which is 433, especially since uses do change. However, there is sufficient parking to allow for the temporary loss of spaces due to food truck operations and the like.



**7. Provide specifications for charging stations.**

**RESPONSE:** Given how rapidly technology changes, the specifications for EV charging stations will be provided at the time the stations are being installed.

**8. Show landscaping on a different plan sheet.**

**RESPONSE:** The Site Plan now shows landscaping on Plan Sheet C3.00: Planting Plan.

**9. Various comments on the lighting meeting the current bylaw standards and providing a photometric analysis.**

**RESPONSE:** The Site Plan includes minimal relocation of existing lighting. Medway Realty does not propose changing this lighting to meet current zoning requirements. As noted, Medway Place is a lawfully pre-existing nonconforming use developed long before the current zoning bylaw provisions on lighting. The site plan review regulations purport to incorporate the current zoning bylaw requirements by reference, but applying these requirements to modifications of the scope proposed through the Site Plan is inconsistent with Medway Place's lawfully nonconforming status. As with paving the whole site, if the PEDB wants the lighting upgraded to meet the current zoning bylaw requirements, Medway Realty would look to make simpler changes to the parking lot to address the misalignment caused by the Route 109 project, as were proposed in 2017, and may return at a later date when it is feasible to repave the entire parking lot at one time while changing the lighting.

**10. Explain what you mean by phasing.**

**RESPONSE:** Medway Realty does not propose an arbitrary phasing plan. Rather, the references to phasing describe the following steps:

1. Medway Realty will exercise the site plan by installing the fencing, curbing, and landscaping; by relocating the overhead lighting and burying any wiring for the relocated lighting below ground; and by repaving the areas shown on Sheet C1.00: Layout and Materials Plan.
2. Within 5 years after commencing work under the Site Plan, Medway Realty will install the EV charging stations.
3. As or when an overhead light stops working, Medway Realty will replace the light and move any associated wiring below the surface.



4. Parking lot areas not repaved in Step 1 will be patched, seal-coated and painted in accordance with the Site Plan. Subsequently these areas will be inspected periodically by Medway Realty and its engineer. When they determine that the asphalt has reached the end of its useful life, Medway Realty will repave that portion of the parking lot. Medway estimates that the entire parking lot will be repaved within about five years after commencing work under the Site Plan, but this period may be shorter or longer, depending on the condition of the asphalt over time.

**11. What is your plan for storing the planters for seating and food trucks.**

**RESPONSE:** In the proposed landscaping maintenance program, Medway Realty proposes that this be addressed through consultation with the building department and planning and economic development coordinator. It may be that the planters become permanent features of the site that are not moved; otherwise, Medway Realty and the above parties can explore whether they can be used as additional landscaping on site during the winter.

**12. Passageway between buildings – specify landscaping and get fire department approval.**

**RESPONSE:** Medway Realty would agree to a condition requiring that the fire department approve of any landscaping that is not grass. The existing hardwood landscaping will be removed; the fire department has objected to this landscaping.

**13. For the parking aisle ends on the west near Ocean State Job Lot, consider planting some low-level shrubs**

**RESPONSE:** As shown on the Planting Plan, 24 dwarf English boxwoods will be planted in these parking aisle ends.

**14. Does the site plan accurately reflect handicapped parking?**

**RESPONSE:** The Site Plan has been updated to accurately reflect the handicapped parking, which had been inadvertently omitted. As shown on the Layout Sheet, there will be nine handicapped parking spaces.

**15. Include the outside play area for the day care on the Site Plan.**

**RESPONSE:** Medway Realty informed the day care of your concerns and learned that the day care operator had already been in discussions with the building department. If the building commissioner or the PEDB



believe this requires site plan review, this is a matter for the town and the day care center. Given that tenants change and new tenants undertake activities specific to their needs, Medway Realty does not believe that the Site Plan should be under constant review and amendment to reflect these changes; rather, any site plan review requirements for tenant-based activities should be handled by the tenant and the PEDB apart from the Revised Site Plan.

#### **D. COMMENTS OF EDC AT AUGUST 30, 2021 MEETING**

##### **1. Address requirements for the monument signs in the Master Signage Plan.**

**RESPONSE:** Medway Realty revised the Master Signage Plan to address requirements for tenant panels on the monument signs addressed by the DRC during its initial review of the monument sign when the sign was first approved. Specifically, tenant panels shall be externally lit only, the lettering on panel signs shall be in a consistent centered position on each panel, and no more than 85% of the individual sign panel shall be filled with graphics and/or text.

##### **2. Consider additional upfront paving in the parking places near the aisle west of the main entrance so that the new paving extends all the way to the curbing between the aisles.**

**RESPONSE:** The extent of initial repaving near the aisle west of the main entrance has been increased per this request. See Sheet C1:00: Layout and Materials Plan

##### **3. Why are you removing the striped area originally proposed for immediately adjacent to the eastern building?**

**RESPONSE:** Medway Realty still believes that, at some point, this area can become an amenity. However, the discussions show the challenges inherent in the site plan review process. Medway Realty received various comments, including that it should be a raised sidewalk, or that it should be painted somehow and protected by concrete planters that would have to be stored off-site when the area was not being used. Medway Realty intends to see how the current proposal works before considering additional changes. It may be at some point that Medway Realty decides a raised sidewalk extension is best and seeks a site plan amendment to that end.

##### **4. Show the proposed fence on the Medway Place site, not the abutting property.**

**RESPONSE:** The intent of the prior site plan was to show that the proposed fence was on the Medway Place site in the same location as the



poles that had already been installed following a survey of this area. The prior engineer offset the fence from the property line, presumably because he thought it was easier read, creating the impression that the fence would not be on the Medway Place site. The Site Plan corrects this depiction to be clear about the location of the fence.





# Master Signage Plan

## Medway Shopping Center

98 Main Street, Medway, MA 02053

Professionally Managed by Diversified Funding Inc.

September 30, 2021

The Medway Shopping Center located at 98-114 Main Street, Medway, MA, consists of three structures. The west-side building currently houses multiple tenants, including Ocean State Job Lot. The east-side building currently houses multiple tenants, including O'Reilly's Auto Parts and Rocky's Ace Hardware. The southernmost building currently is occupied solely by Bank of America.

The Medway Shopping Center allows tenants to put up signage. Signage in the Town of Medway requires a sign permit following review by the Design Review Committee (DRC). Signage also requires a wiring permit.

### A. Quantity

Each tenant shall be allowed one (1) wall sign in front of their entrance, and one sign located on each of the two panel signs on each of Landlord's monument signs, one facing east and one facing north on each sign (as space allows).

### B. Type of sign

1. **Wall Signs:** The only type of sign allowed will be an internally illuminated individual channel letter sign. No box/cabinet signs are permitted. No window signs are permitted. Tenants are advised to contact the Planning and Economic Development Coordinator with respect to any questions over allowed signage in general, but particularly for any sign that is not a wall sign or a panel sign on Landlord's monument signs.
2. **Panel Signs on Landlord's Monument Signs:** The lettering on panel signs shall be in a consistent centered position on each panel. No more than 85% of the individual sign panel shall be filled with graphics and/or text.

### C. Design/Materials

Except as noted above, the materials, color of sign sides, face, trim cap and interior lighting and the lettering style & logo is at the discretion of the tenant, subject to Landlord Approval. Tenants are advised the DRC has expressed a preference for wall signs to be consistent with existing signs, such as Ocean State Job Lot's and Rocky Ace Hardware's. For convenience, photographs of these two signs are attached as **Exhibit A**.



#### **D. Sign Location**

The wall signs must be centered on the fascia or façade of the plaza immediately above the business establishment facing the main parking lot adjacent to Route 109. Each establishment will have one panel sign on each monument, with one seen going east on Route 109 and one seen going west on Route 109 (as space allows)

#### **E. Sign Illumination**

Internally illuminated for wall sign

Externally illuminated for monument sign

#### **F. Size**

Per the Medway Zoning Bylaw, the amount of sign surface area (square footage) shall not exceed building frontage (linear feet) of each occupied space (see Table 5 below). 1 square foot per linear foot of building front up to a maximum of 120 square feet.

**TABLE 5 - Continued**

<b>Central Business District - Route 109 Business District</b>					
<i>(Title amended 11-14-16)</i>					
<b>Multi-Tenant Development – 5 Acres or More (On a Lot or Lots Comprised of 5 or More Acres)</b>					
	<b>Total Maximum Sign Surface Area (square feet)</b>	<b>Maximum # of Signs</b>	<b>Maximum Sign Height (feet)</b>	<b>Minimum Setback from any Street Lot Line (feet)</b>	<b>Illumination</b>
<b>Development Sign</b>	Primary 100 not to exceed 75 per sign face  Secondary 30 not to exceed 20 per sign face	1 per approved curb cut. <i>(Amended 11-16-15)</i>  One sign shall be considered to be the primary sign and all others shall be considered to be secondary signs.	Primary 12  Secondary 6	Primary 15  Secondary 10	External
<b>Individual Establishment Wall Sign</b>	Building Sign frontage X 1.0 not to exceed 120 per establishment	3 for a freestanding establishment not to exceed 1 per façade  2 for an establishment located in a multi- unit building not to exceed 1 per façade  1 for all others	NA	NA	External Internal
<b>Individual Establishment Projecting Sign</b>	12	1 per establishment	See 7.2.5.B.2 <i>(Amended 11-16-15)</i>	NA	External
<b>Freestanding Directory Sign</b>	16	Per Master Signage Plan	6	See 7.2.5.B.4 <i>(Amended 11-16-15)</i>	External

These requirements may change if the zoning bylaw changes. Tenants are encouraged to reach out to the Planning and Economic Development Coordinator to confirm that these zoning standards have not



changed. The landlord reserves the right to revise this master signage plan to reflect any new zoning standards for signage. The date of any revisions will be noted under the title on page one.

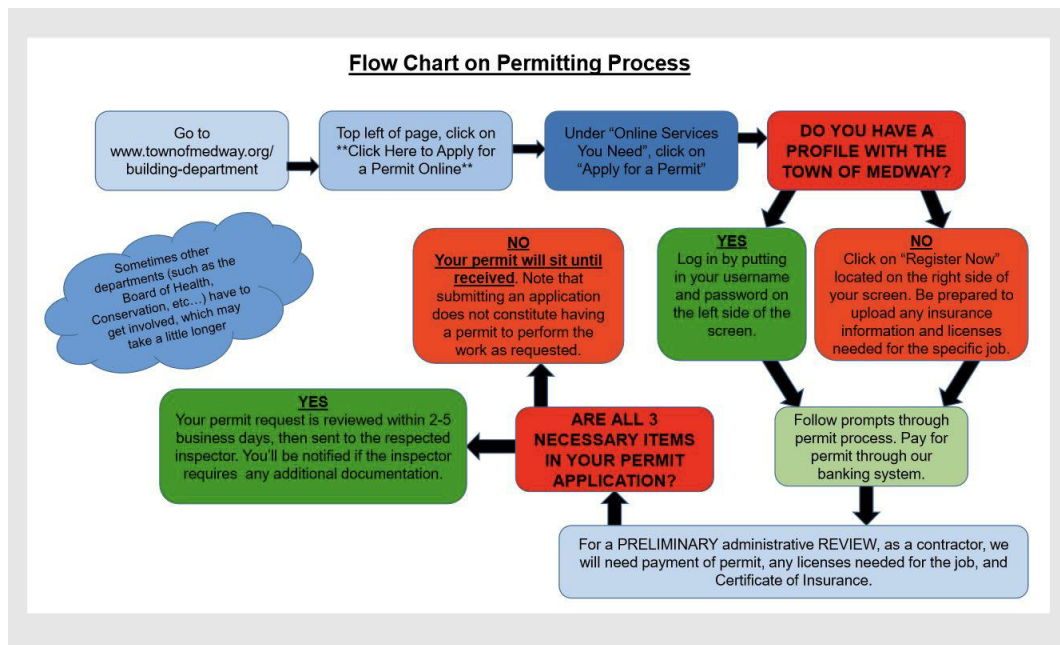
### **G. Applying for a Sign Permit**

Prepare and file the necessary documents for the permit application:

1. Sign Permit Application
2. Drawing of proposed sign including sign located on elevation, scaled drawing of sign, construction and installation details
3. Letter of Authorization
4. Construction Supervisors License for sign installer
5. Certificate of Insurance from sign installer
6. Permit Fee for signs

Permits may be applied for online: [www.townofmedway.org/building-department](http://www.townofmedway.org/building-department).

The DRB reviews all permit applications and comments on sign designs. Tenants seeking guidance are encouraged to reach out to the Planning and Economic Development Coordinator.



The landlord reserves the right to revise this master signage plan to reflect any new fees. The date of any revisions will be noted under the title on page one.

### **H. Permitting Fees for the Town of Medway**

#### **1) Wiring:**

For any job over \$7,500.00; 2% of the contracted cost. For any job under \$7,500.00; minimum charge of \$150.



## **2) Sign Permits:**

Signs \$40.00 for 1st 10 square feet; \$2.00 per square foot thereafter

**Tenant should confirm these fees with the town, as fees are subject to change.** The landlord reserves the right to revise this master signage plan to reflect any new fees. The date of any revisions will be noted on page one.

### **I. Sign Guidelines**

The master signage plan for Medway Shopping Center serves as a guide for tenants to understand what is acceptable and unacceptable for signage on the property. This applies prospectively to all current and future tenants, but does not require tenants to change existing signage or supplant provisions in existing leases that are not consistent with the master signage plan. New or amended leases are expected to comply with this plan. The master signage plan reflects our current planning at this time but does not preclude changes and/or exceptions that the landlord could make allowable by the town sign bylaws

### **J. General Conditions/Terms**

1. All tenants are required to secure a sign permit from the Town of Medway through the Medway Building Department for new signage. As part of that process, individual sign designs and materials will be reviewed by the DRC. As a general rule, the DRC must issue a Letter of Recommendation before the Building Department will issue a sign permit.
2. If there are any conflicts between this master signage plan and the signage provisions of the Medway Zoning or General Bylaws, the requirements/limitations of the Town bylaws shall prevail.
3. This plan may be amended (a) as required in Sections F, G, and H to reflect new zoning standards, procedures, and/or filing fees; or (b) upon approval of the Planning and Economic Development Coordinator or, in his or her discretion, the administrative site plan review team.



**EXHIBIT A**

**1) Ocean State Job Lot Sign**



**2) Rocky's Ace Hardware Sign**

Insert photo





# Landscape Maintenance Program

## Medway Shopping Center

98 Main Street, Medway, MA 02053

Professionally Managed by Diversified Funding Inc.

**September 30, 2021**

The Medway Shopping Center located at 98-114 Main Street, Medway, MA (the “Property”) will include installed landscaping located throughout the parking lot that fronts on Main Street and along one passageway between buildings all as shown on the site plan site plan entitled “Site Plan for Medway Place, 98, 109, and 114 Main Street (Route 9), Medway, Massachusetts”, dated August 30, 2021, comprising 7 sheets prepared by Howard Stein Hudson, and 4 additional reference plan sheets (the “Site Plan”). The landscaping details, including plan varieties and their locations are shown on that site plan. The majority of the landscaping on the Property sits along the southerly and westerly property boundaries. Additional landscaping will be located around the main sign, the wellhead will be surrounded with arborvitaes, and landscaping will be located in the center and along the ends of certain parking rows.

The maintenance program below includes weekly (during growing season), as-needed, and annual maintenance carried out by landscaping company or companies selected by the property owner. The maintenance program covers all of the landscaped areas on the Property. Generally the landscaping on the Property is either mowed grass or mulched area with trees and/or low plants. The landscaping is irrigated by a well installed on the Property. The landscape plants will be replaced if they wither or die. The landscaping will be maintained in the manner and frequency set out below.

### WEEKLY MAINTENANCE DURING GROWING SEASONS

#### **Mowing, Weeding, Cleanup**

- Mowing of all lawn areas (no mowing during rain storms)
- Trimming all lawn areas, including walls, trees, foundations, walkways and mulch beds
- Weed and remove all debris from shrub and mulch beds



### **Tree and Shrub Care**

- The trees are all Kousa dogwoods. These will be pruned and trimmed as needed to ensure that the tree canopy does not interfere with access by emergency vehicles and delivery vehicles via the emergency vehicle and delivery access routes.
- All shrubs will be pruned and/or shaped once, then as needed during the growing season.
- All clippings to be removed upon completion
- Pruning and removal of sucker growth from bottom of trees

### **WEEKLY MAINTENANCE**

- Keep all parking areas and walkways free from debris

### **AS NEEDED TREATMENTS AND MAINTENANCE**

#### **Lawn Chemical Treatments**

- Fertilize plus pre-emergent crabgrass control
- Fertilize plus dicot weed control
- Grub control
- Broadleaf weeds spray
- Late fall fertilize
- Lime

#### **Fall Clean-Up**

- Blow and/or rake all lawn areas
- Remove leaves and debris from all shrub and mulch beds.

### **ANNUAL MAINTENANCE**

#### **April**

- Sweep all roadways, parking areas and sidewalks clean of sand and debris
- Thatch grass areas to remove matted grass and debris, clean up debris
- Repair any plow damage
- Prune all dead and damage branches out of trees and shrubs in landscaped areas up to 10'
- Clean out and edge all shrub and mulch beds

#### **May**

- Premium bark mulch spread in all existing mulch beds.

#### **September**

- Core Aeration



**October-November**

- Remove any annual flowers.
- Blow roadways, parking areas and sidewalks.
- Blow and/or rake all lawn areas
- Remove leaves and debris from all shrub and mulch beds.

**PLANTERS**

- The owner may use 2' x 2' concrete planters to set aside certain areas of the Property for use by restaurants or food trucks, as shown on the Site Plan.
- The plants in these planters will be pruned and maintained in much the same manner as other plants on site.
- The owner will make arrangements with the building commissioner and planning and economic development coordinator for relocation of the planters when they are not in use to set aside areas of the parking lot. The planters may be used on the Property if an appropriate location is found to use them as additional seasonal landscaping or screening, or they may be removed from the parking lot to an off-site location, all as agreed upon by the property owner, planning and economic development coordinator, and the building commissioner.



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**PGC ASSOCIATES, LLC**

1 Toni Lane  
Franklin, MA 02038-2648  
508.533.8106  
gino@pgcassociates.com

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October 7, 2021

Mr. Andy Rodenhiser, Chairman  
Medway Planning Board  
155 Village Street  
Medway, MA 02053

**RE: MEDWAY PLACE SITE PLAN REVIEW**

Dear Mr. Rodenhiser:

I have reviewed the revised site plan for parking lot alterations and drainage improvements at Medway Place under the Site Plans Rules and Regulations adopted by the Planning and Economic Development Board on October 8, 2019. The owner/applicant is Medway Realty, LLC of Boston.

The proposal is to restripe and install drainage improvements within the existing parking lot. According to the applicant, the number of parking spaces remains the same at 433. I counted 424. According to the applicant based on its mix of uses, this still exceeds the number required. Also 4 motorcycle spaces will be added. Landscaping has been significantly expanded from the initial proposal. The Site Plan and Landscape Plan was prepared by Howard Stein Hudson of Boston and is dated April 22, 2021, with a most recent revision date of August 20, 2021 (Cover Sheet dated August 30, 2021). The comments from my December 5, 2019, May 4, 2021 (**in bold**) and July 22, 2021 (***bold italics***) letter are repeated with new comments in plain *italics* as follows:

1. The project qualifies for major site plan review since it involves “The redesign of the layout/configuration of an existing parking lot of forty or more parking spaces,” as specified in Section 3.5.3.c of the Zoning Bylaw.
2. Section 204-5-A of the Site Plan Rules and Regulations requires a cover sheet. The applicant has requested a waiver. However, a cover sheet could consolidate the separate sheets that have been submitted into a cohesive set, as well as list waivers and provide other identifying information. ***The applicant now agrees to provide a cover sheet it included as a condition of site plan approval. There is now a cover sheet.***
3. Section 204-5-D (8) specifies the contents of a landscape plan. A waiver has been requested. Most of the required information has been presented. A waiver of the requirement for a Landscape Architect may be appropriate, but another requirement that should be complied with is a maintenance program to ensure the viability of the new plants. ***I haven’t seen a maintenance program, but an irrigation well has been installed to ensure the plants are watered. The applicant does not believe a written maintenance plan is necessary but will produce one if included as a condition of site plan approval. It should be noted that such a maintenance plan should go beyond watering and address pruning as needed (e.g., to ensure site distance is maintained), and treatment/replacement of diseased or dead plants. A landscape maintenance program that covers the important issues has now been submitted.***
4. Section 205-5-D (13) requires details of certain site amenities. Among these are bike racks. Details of the proposed bike racks should be provided. ***A detail of the bike racks has now been provided. OK.***




5. Section 205-5-D (14) requires a master signage plan. While new signage is not proposed, one element of the signage plan is “standards for tenant signs.” These could be established. **Directional and instructional signage within the parking lot is shown. The applicant has agreed to provide a master signage plan prior to the next hearing. A master signage plan has now been submitted.**
6. Section 207-13-G (3)(a) requires parking drive aisles to be 24 feet wide. Most of the aisles are one-way for angle parking and those aisles are 18 or 19 feet wide. Section 207-13-G (2)(b) allows for angle parking if the applicant can show proper maneuverability can be achieved. However, pull through angle parking is not allowed. It is not clear if this is achieved. **The aisles are now 24’ wide except for one-way aisles. OK**
7. Section 207-13-I requires electric charging stations. Under the formula, 9 charging stations are required for 400-500 spaces. **Electric charging stations providing 9 charging ports are now included in the plan. The plan now shows two locations for charging stations, each with three stations and a note stating that there are three chargers per station. It is not clear if 18 total charging ports are now being proposed. Also, the applicant states that conduits will be installed as part of the repaving and the stations will be installed and operable within 5 years. Although the type of charging port is not specified in the regulations, the applicant should ensure that the conduits and dedicated parking spaces are capable of accommodating Level 3 Fast Charging Stations and to ensure that space is available for the necessary utility company infrastructure to support the stations. The applicant has not responded further to these comments which (other than the number of charging stations) are suggestions from me and are not in the regulations.**
8. Section 207-19-B (2) requires perimeter landscaping around the entire site. **The plan now shows perimeter landscaping along most of the Main Street frontage. The areas are labeled as “Landscaped area”, but details of the landscaping are not provided. Additional details are now provided. More landscaping has been added to the plan, including 24 dwarf boxwoods in the islands in front of the parking area south of Ocean State Job Lot, and arborvitaes around the irrigation well equipment.**
9. Section 207-19-C (1) (a) requires that a minimum of 10% of internal parking area shall be provided as landscaped island areas, exclusive of perimeter landscaping. 207-19-C (1)(b) requires landscape islands at the ends of rows with more than 15 parking spaces. The plan shows striping rather than islands. Section 207-19-C (1)(d) requires at least 1 deciduous shade tree per 6 parking spaces. At 446 car spaces, 75 trees are required. The plan shows 11. **The plan says there are 433 spaces so 72 trees would be required. There are 22. The parking rows now have landscaped islands except for the three rows in front of Ocean State Job Lot. The applicant says that contractual obligations preclude the islands at these locations. The applicant clarifies the areas where there are not raised islands are due to concern with emergency access, not contractual obligations, but the lack of trees in front of Ocean State Job Lot is due to contractual obligations. As noted above, dwarf boxwoods have now been added to the end of these three parking rows replacing the previously proposed striping.**
10. Section 207-19-C (2) requires perimeter landscaping to screen parking areas to prevent direct views of parked vehicles from streets and sidewalks. **Perimeter landscaping is now provided. The details are not shown so it is not clear if screening of parking areas is achieved. The row along Main Street on the easterly side of the sight does not have landscaping. It should be noted that two of the three parking rows along Main Street are also proposed to serve as temporary outdoor dining sites. The applicant explains that low-lying plantings are used due to contractual obligations prohibiting visual obstruction of storefronts but is proposing taller plantings where not constrained by such obligations.**



11. Section 207-19-F specifies the allowable species of trees. The proposed honey locusts are not on the list. However, alternatives are allowed to be proposed if they are more suitable to the site. The Board may seek advice from the Tree Warden on this issue. **Honey locusts are still proposed and may be acceptable. Kousa dogwoods are now proposed instead of honey locusts.**
12. Section 207-19-I specifies that tree size shall be at least 2 ½" caliper and 12 feet in height upon planting. No specifications for the proposed trees are provided. **The plan does not indicate the caliper or height upon planting. The applicant agrees to a condition that the proposed trees will meet these specifications. The plans now also indicate that the arborvitaes around the well equipment will be 5-6 feet high at planting.**
13. **A fence along the westerly property boundary has been added. It has been partially constructed due to a misunderstanding of permit requirements. It is proposed to run from approximately a few feet back from the façade of the Ocean State Job Lot building to just short of the vehicular connection to DryBridge Crossing. The plan now states that the existing fence will be replaced by one similar to that at Cumberland Farms. The fence is now indicated to be reduced to 4 feet in height. I suggest that the applicant consider a 4-foot picket fence that would achieve the goal of physical separation with a more aesthetic manner.**
14. **The 19 parking spaces west of Ocean State Job Lot are accessed via a one-way driveway that requires vehicles to exit by traveling the full length of the rear of the buildings. These spaces plus the 44 spaces that are behind the buildings should be limited to employees. The 12 spaces across from the hardware store outdoor display area also appear to be accessible only from behind the buildings since it has a 20' aisle. This comment has not been addressed. The applicant has now eliminated the one-way pattern (except for one alley) so that cars parked on the west side of Ocean State and east of Rocky's can exit without traversing the rear of the building.**
15. Section 207-9 B (2) says that sidewalks that are proposed to be used for outdoor display shall be 5' wider to allow pedestrian passage. The proposed outdoor display area appears to be fenced and accessible only from the interior of the store, so this isn't applicable. However, Section 207-22 regarding outdoor storage says such areas shall be screened from streets and adjacent properties. Since its labeled as "display" rather than storage, it's not clear if this will be (or needs to be) screened. *The display area has been reduced from 1600 to 1200 square feet, and Rocky's Ace Hardware is submitting a separate special permit for the display area which has the details.*

If there are any questions about these comments, please call or email me.

Sincerely,



Gino D. Carlucci, Jr.





December 10, 2019  
(revised January 29, 2020)  
(revised May 6, 2021)  
(revised July 21, 2021)  
**(revised October 20, 2021)**

Ms. Susan E. Affleck-Childs  
Medway Planning and Economic Development Coordinator  
Medway Town Hall  
155 Village Street  
Medway, MA 02053

**Re: Medway Plaza  
Site Plan Review  
Medway, Massachusetts**

Dear Ms. Affleck-Childs:

Tetra Tech (TT) has performed a review of the proposed Site Plan for the above-mentioned Project at the request of the Town of Medway Planning and Economic Development Board (PEDB). The proposed Project is located at 98, 108, and 114 Main Street (Route 109) in Medway, MA. Proposed Project includes re-stripping of an existing parking lot, landscaping installation, and stormwater infrastructure installation.

TT is in receipt of the following materials:

- A plan (Plans) titled "Drainage Improvement Plan, #98, #108, & #114 Main Street, Medway, Massachusetts", dated September 7, 2019, prepared by Grading Consulting, LLC (GC).
- A stormwater report (Stormwater Report) titled "Stormwater Report, #98, 108, #114 Main Street, Medway, Massachusetts" dated October 2, 2019, prepared by GC.
- An Application for Major Site Plan Approval, dated October 25, 2019.
- A Drainage Improvement Plan, dated September 7, 2019, prepared by GC.
- A cover letter dated October 28, 2019, prepared by Pierce Atwood, LLP.
- A project narrative detailing project summary, current and proposed uses, and requested waivers.
- A waiver request package dated October 24, 2019, prepared by Joel Quick, Esq.

The Plans and accompanying materials were reviewed for conformance with Chapter 200 of the Town of Medway PEDB Rules and Regulations (Regulations) and good engineering practice. Review of the project for zoning, stormwater and wetland related issues was not completed as these reviews are conducted by separate consultants/town permitting authorities.

#### **TT 1/29/20 Update**

The Applicant has supplied TT with a revised submission addressing comments provided in our previous letter including the following documents:

- A Cover Letter dated January 13, 2020, prepared by Lawson & Weitzen (LW).
- A plan titled "Drainage Improvement Plan", dated September 7, 2019, prepared by GC.
- A Response to Comments Letter dated January 10, 2020, prepared by GC.
- Email correspondence from David D'Amico, Medway DPW Director dated January 22, 2020.



#### **TT 5/6/21 Update**

The Applicant has supplied TT with a revised submission addressing comments provided in our previous letter including the following documents:

- A Cover Letter dated April 23, 2021, prepared by Pierce Atwood, LLP.
- A plan titled "Site Plan & Landscape Plan", dated April 22, 2021, prepared by Howard Stein Hudson.
- A plan titled "Temporary Seating Plan", dated April 22, 2021, prepared by Howard Stein Hudson.
- A letter dated April 22, 2021, prepared by GC regarding 98, 108, 114 Main Street, Medway/Site Plan and Landscape Plan, Medway Place.
- A copy of the Application for Administrative Site Plan Review for the proposed fencing along a portion of the western property boundary of Medway Place.
- A plan set (Plans) titled "Drainage Improvement Plan, #98, #108 & #114 Main Street, Medway, Massachusetts", dated September 7, 2019, revised March 1, 2021, prepared by GC.

The revised Plans and supporting information were reviewed against our previous comment letter (January 29, 2020) and comments have been tracked accordingly. Text shown in gray represents information contained in previous correspondence while new information is shown in black text.

#### **TT 7/21/21 Update**

The Applicant has supplied TT with a revised submission addressing comments provided in our previous letter including the following documents:

- A Cover Letter dated July 14, 2021, prepared by Pierce Atwood, LLP.
- A plan titled "Site Plan & Landscape Plan", dated April 22, 2021, revised July 13, 2021, prepared by Howard Stein Hudson.
- A plan titled "Temporary Seating Plan", dated April 22, 2021, revised July 13, 2021, prepared by Howard Stein Hudson.
- A submittal package titled "Supplementary Site Plan Submittal: dated July 14, 2021, prepared by Medway Realty, LLC. (MRL)

The revised Plans and supporting information were reviewed against our previous comment letter (May 6, 2021) and comments have been tracked accordingly. Text shown in gray represents information contained in previous correspondence while new information is shown in black text.

#### **TT 10/20/21 Update**

The Applicant has supplied TT with a revised submission addressing comments provided in our previous letter including the following documents:

- A Cover Letter dated September 30, 2021, prepared by Pierce Atwood, LLP.
- A plan titled "Site Plan for Medway Place", dated August 30, 2021, prepared by Howard Stein Hudson.

The revised Plans and supporting information were reviewed against our previous comment letter (July 21, 2021) and comments have been tracked accordingly. Text shown in gray represents information contained in previous correspondence while new information is shown in black text. Comments resolved in previous correspondence have been removed to consolidate the document for ease of review.



## SITE PLAN REVIEW

7. A cover sheet has not been provided. (Ch. 200 §204-5.A)
- *MRL 7/14/21 Response: Medway Realty believes that a cover sheet is not necessary given the nature of changes proposed, but if this is important to the Board, Medway Realty will provide a cover sheet listing the approved plans and waivers as a condition of site plan approval.*
    - TT 7/21/21 Update: We recommend the PEDB require a cover sheet as is standard of most projects with multiple plan sheets.
    - *MRL 9/30/21 Response: Medway Realty has provided a cover sheet.*
      - TT 10/20/21 Update: In our opinion, this item is resolved.
9. An Existing Conditions Sheet has not been provided. However, due to the nature of work proposed, the Plan clearly shows the existing infrastructure on the project site and abutters. A waiver has been requested from this Regulation. (Ch. 200 §204-5.C)
- *MRL 7/14/21 Response: Since this comment was made, Medway Realty prepared a detailed survey and existing conditions plan as part of the application for the MS4CD Permit. Medway Realty submitted this plan to the Board previously.*
    - TT 7/21/21 Update: The Existing Conditions Plan should be included in this plan set as is standard on most projects. This will assist the PEDB and additional reviewers understand the overall scope of work as it relates to existing conditions.
    - *MRL 9/30/21 Response: The existing conditions plan is now included in the plan set.*
      - TT 10/20/21 Update: In our opinion, this item is resolved.
10. Site grading has not been provided on the Plan. It does not appear this regulation is applicable to this site as existing grades are being maintained at the site. A waiver has been requested from this Regulation. (Ch. 200 §204-5.D.2)
- *MRL 7/14/21 Response: The reasons for the waiver request are stated in the Project Narrative. Medway Realty agrees that this regulation is not applicable.*
    - TT 7/21/21 Update: The Applicant is proposing to install curbed islands with curb breaks which may affect drainage patterns at the site. Proposed contours should be included on the Plans to help understand if stormwater runoff issues will occur. It appears that the proposed islands are situated perpendicular to the contours which may trap runoff at the downhill ends of the island particularly in winter months when snow and ice may block the curb breaks. Additionally, it appears a proposed island to the west of the main entrance is situated over an existing catch basin meant to drain the parking lot which would render it useless.
    - *MRL 9/30/21 Response: The curb breaks have been lengthened to two feet instead of one. This will help prevent blockage. In addition, Medway Realty will inspect and clear the curb breaks on a regular basis.*

*CB 10, CB 11 and CB 12 have been added to the plans. CB 10 was added to better capture stormwater runoff that might have otherwise been trapped by the expanded landscape island around the monument sign located at the westerly entry. CB 11 and CB 12 replace existing catch basins that are located in proposed planted islands.*

*The Site Plan set has been updated to include Sheet C2.00: Grading, Drainage and utilities Plan the "GDU Sheet") which shows existing contours and the proposed drainage modifications.*

      - TT 10/20/21 Update: As stated in prior correspondence, we continue to be concerned that the curb breaks will not function as intended, particularly during intense storm events. Curb breaks function well when they are situated perpendicular to the direction of flow. The curb breaks proposed for this Project, particularly west of the main entrance, are generally parallel to direction of flow. We anticipate runoff will bypass the curb breaks, channelize, and flow over the islands at the low end of the parking aisles (similar to what occurs today) bypassing the pre-treatment designed under the MS4CD review of



the Project's stormwater. Additionally, proposed curb lines are segmenting previously approved drainage subareas causing flow to be redistributed to other subareas. We recommend the Applicant re-delineate the drainage subareas to confirm sizing of the pre-treatment BMP's proposed under the MS4CD review process and also revise the plan to ensure stormwater runoff is directed to the appropriate areas.

11. An Erosion and Sediment Control Plan has not been provided. A waiver has been requested from this Regulation. (Ch. 200 §204-5.D.5)

- *MRL 7/14/21 Response: The reasons for the waiver request are stated in the Project Narrative. Medway Realty has provided an erosion and sediment control plan in connection with the MS4CD permit, as shown on the plan included with this submittal, and will provide similarly appropriate erosion and sediment controls in consultation with the Town for site plan improvements. Aside from the implementation of stormwater controls, which is controlled by the MS4CD Permit, Medway Realty anticipates very little excavation and therefore does not believe that an additional erosion and sedimentation control plan (that is, one separate from the MS4CD Permit erosion and sediment control plan) is necessary, but will agree to a condition requiring that the MS4CD erosion and sedimentation control plan be modified to the extent necessary and reviewed and approved by the Building Department prior to construction.*
- TT 7/21/21 Update: We recommend the Applicant submit an erosion and sediment control plan as part of this Plan set as the limits of work are spread throughout the site with potential to affect multiple drainage catchments. Additionally, it is our understanding that the MS4CD Permit considered only the drainage improvements that were proposed at that time and not work to the overall site plan. We anticipate these site plans will need to be submitted to DPW for review and potential amendment of the existing MS4CD Permit for the site.
- *MRL 9/30/21 Response: The GDU Sheet shows erosion control measures. Additional details are shown on Sheet C4.00: Details (the "Details Sheet"). Medway Realty provided an erosion and sediment control plan in connection with the MS4CD Permit, as shown on a plan included with this submittal. That plan met the requirements of the MS4CD Permit.*
- TT 10/20/21 Update: The proposed scope of work for the Project has changed since the MS4CD permit review (addition of site disturbance, curbing, paving, etc.). We recommend the Applicant coordinate with Medway DPW regarding changes to the proposed scope and its impact on previously approved MS4CD Permit.

13. A Site Utilities Plan has not been provided. It does not appear this regulation is applicable to this site as existing utilities will remain. A waiver has been requested from this Regulation. (Ch. 200 §204-5.D.7)

- *MRL 7/14/21 Response: The reasons for the waiver request are stated in the Project Narrative. Medway Realty agrees that this regulation is not applicable.*
- TT 7/21/21 Update: Work is proposed on this Project related to utilities including light poles and EV charging stations. Additionally, existing utility information should be shown to confirm if trees, signage and light pole bases, that require subsurface installations, are in potential conflict with existing utilities. We do not support this waiver request.
- *MRL 9/30/21 Response: The GDU Sheet shows existing utility information, as well as the relocation of light poles and the electrical lines that will be relocated to beneath the surface. Medway Realty has agreed to provide EV charging stations for 18 vehicles (twice what the site plan regulations require) over a 5-year period, but these are not part of the immediate improvements. Rather than engage in a paper exercise now, Medway Realty believes that the utility work in connection with the EV charging stations should be addressed through a condition requiring the approval of the PEDB's engineering consultant at the time the EV charging stations are installed. The technology may change over the five-year period.*
- TT 10/20/21 Update: Existing utilities have been provided on the Plans. Additionally, electric runs have been provided for the proposed lighting improvements. However, we recommend the Applicant coordinate with the PEDB regarding EV charging stations and



whether they be proposed and completed at this time or as part of the five-year buildout plan for the Project.

15. Applicant is requesting waivers from Ch. 200 §204-5.D.9 through Ch. 200 §204-5.D.20. It does not appear these regulations are applicable to the scope of work for this Project.

- *MRL 7/14/21 Response: The reasons for the waiver request are stated in the Project Narrative. Medway Realty agrees that these regulations are not applicable.*
  - TT 7/21/21 Update: Consistent with prior projects submitted to the PEDB we anticipate a rendering of the Project (Ch. 200 §204-5.D.10) may be required to assist the PEDB and reviewers in understanding the overall aesthetic of the Project after completion. Additionally, confirmation from the fire department that the proposed scope will not inhibit their ability to respond to emergencies at the site (Ch. 200 §204-5.D.18). We support waivers for all other Regulations mentioned in our original comment if required by the PEDB.
- *MRL 9/30/21 Response: The PEDB agreed to waive the requirement for a rendering. Medway Place will follow up with the Planning and Economic Development coordinator regarding the fire department. To date, the fire department's comments have been limited to the passageway between Ocean Safe Job Lot and the eastern building, the width of the eastern side of the main entrance (which MassDOT's improvements limited to 16 feet instead of 20 feet), and the potential for the larger trees original proposed to interfere with emergency vehicle access. Medway Realty has addressed all of these comments.*
  - TT 10/20/21 Update: We recommend a Condition requiring the Applicant provide written correspondence from the Fire Department regarding their review and approval of the Project.

#### ADDITIONAL COMMENTS

22. The Applicant has not provided an Erosion and Sediment Control Plan associated with construction activities for the improvements. (Ch. 200 §204-5.D.5)

- TT 5/6/21 Update: Comment unresolved. Refer to comment #21.
- *MRL 9/30/21 Response: See response to Comment No. 11 above.*
  - TT 10/20/21 Update: Comment unresolved. We will track this item under Comment 11 for the purposes of consolidating review and will remove this item in future correspondence.

23. The scope of pavement restoration is unclear on the plans. During a site visit TT observed that the overall condition of the pavement is in poor condition. We recommend the Applicant mill and overlay the parking lot.

- *MRL 7/14/21 Response: (No Applicant response for this comment)*
  - TT 7/21/21 Update: The Applicant is proposing to pave a portion of the parking lot which appears to be somewhat arbitrarily chosen. Paving will also occur around all proposed curb at the islands approximately one foot from the edge of curb which is not shown on the plan or in a detail. We expect issues will occur at the joints between the existing deteriorated pavement and the newly paved areas. We recommend, at a minimum, repaving the portions of the parking lot that are receiving new curbed islands to ensure localized low spots, cracking and other deterioration does not impact the proposed work.
- *MRL 9/30/21 Response: The extent of repaving that will be completed initially is shown on Sheet C1.00: Layout and Materials Plan (the "Layout Sheet"). At the request of the DRC, Medway Realty expanded the scope of the repaving to near the aisle immediately west of the main entrance. On its own initiative, Medway Realty also expanded the scope of repaving in the western part of the parking lot near Main Street. The areas to be repaved initially correspond to areas where there will be the most site disturbance due to stormwater infrastructure and areas that are in fair to poor condition. Additional repaving will be done as the pavement (in those areas not initially repaved) reaches the end of its useful life. Repaving the entire parking lot at this time is not necessary or economically feasible. As stated, if the*



*PEDB wants the entire parking lot paved at once, Medway Realty would look to make simpler changes to the parking lot to address the misalignment caused by the Route 109 project, as were proposed in 2017, and may return at a later date when it is feasible to repave the entire parking lot at one time.*

- TT 10/20/21 Update: We recommend the Applicant continue to negotiate with the PEDB regarding repaving schedule for the Project and provide a Construction Phasing Plan for proposed repaving of the site consistent with the Applicant's proposed five-year buildout plan. We disagree with the proposed paving limits shown on the revised Site Plans as conducting the paving in the proposed manner is inefficient and will lack the quality expected from the proposed work. Furthermore, installing curb in degraded asphalt will ultimately result in poor quality and less efficiency when completing the repaving in the future.

We believe the Project will be more successful if completed in a manner as shown on the attached Conceptual Phasing Plan. Installing the improvements at the frontage of the site in Phase I will provide enhancements to site aesthetics along the RT 109 corridor which we believe the town is requesting but will require delaying some of the site work with assurances from the Applicant (through acceptance of conditions, potential bonding, etc.) that the work will be completed in the agreed-upon timeframe, which satisfies the requests of the Applicant. We believe the phasing shown on the Conceptual Phasing Plan will ultimately provide a more successful approach to rehabilitating the site given current circumstances. We will continue to coordinate with the Town, Applicant, and their engineer regarding phasing, scope, and timeline of the Project.

24. The Applicant has provided three (3) electric vehicle charging stations in the southwest corner of the parking lot however proposed utility work associated with the charging stations has not been provided on the plans.
- *MRL 7/14/21 Response: (No Applicant response for this comment)*
    - TT 7/21/21 Update: See Update at Comment 13.
    - *MRL 9/30/21 Response: See response to Comment No. 13 above.*
      - TT 10/20/21 Update: Comment unresolved. We will track this item under Comment 13 for the purposes of consolidating review and will remove this item in future correspondence.
25. We recommend the Applicant provide a plan showing all proposed work to ensure that the proposed curbing and landscaping is not in conflict with the proposed drainage improvements.
- *MRL 7/14/21 Response: (No Applicant response for this comment)*
    - TT 7/21/21 Update: The Applicant has provided a Plan that shows this work however additional information should be shown on the Plan as discussed herein.
    - *MRL 9/30/21 Response: See responses to Comment Nos. 10 and 13 above.*
      - TT 10/20/21 Update: In our opinion, this item is resolved.
26. The proposed Site Plan shall be coordinated with the proposed Ace Hardware Outdoor Display Area Plan, specifically the proposed parking and striping for that Project. That project is currently under review by the PEDB.
- *MRL 9/30/21 Response: The Site Plan incorporates the features of the proposed Rocky's Ace Hardware outdoor display area. Medway Realty will update the Site Plan to reflect any changes in these features due to the approval or disapproval of the Rocky's proposal.*
    - TT 10/20/21 Update: In our opinion, this item is resolved.
27. It is unclear why the northern end of the islands located at the western portion of the site are proposed to be striped, but all other islands are curbed. Additionally, stormwater ponding may occur at the southern island of the westernmost parking aisle.
- *MRL 9/30/21 Response: The northern end of the island on the western portion of the site are not curbed because the curbing would impede emergency vehicle access.*



*Existing spot grades have been added to the GDU sheet to confirm that positive drainage is provided at the island indicated.*

- TT 10/20/21 Update: We recommend the PEDB consider requiring the Applicant widen the main drive aisle in front of Ocean State Job Lot and including curbed end islands. We believe the curbed end islands could be proposed with minimal impact to parking counts in order to ensure the plan remains consistent with the overall site design aesthetic while also maintaining emergency access. Any requested changes shall first be reviewed by the Fire Department to ensure sufficient emergency access to the site.
28. It is unclear why the proposed one-way lane immediately adjacent to the western portion of the main entrance is required. It may presumably be proposed to access the bank and drive-up teller/atm, however this area may be better suited for a larger landscape island to help reduce impervious cover at the site.
- *MRL 9/30/21 Response: This proposed one-way helps improve site circulation by providing a route to the drive-up teller/ATM and to additional parking that does not require vehicles to travel along the driveway nearest buildings, where pedestrian activity is heaviest. Medway Realty believes that this is a safety amenity and is more important than additional landscaping, given the scope of landscaping already proposed.*
  - TT 10/20/21 Update: We recommend the Applicant coordinate with the PEDB on this item. We do not expect this lane will be widely used by patrons and its site area would be much better utilized as much needed green/pervious area at the site and could be utilized as an overflow area for patrons of the food trucks. Additionally, the lane causes a pinch point to occur adjacent to the existing monument sign where it meets two 24-foot wide drive aisles at a 14-foot wide intersection, which is not a safe condition for traffic circulation.
29. The Applicant shall provide details of proposed vertical granite curbing installation, sidewalk, speed bump, pavement section, pavement matching, signage, light bases, etc. All proposed work shall include a standard detail to assist the PEDB and other reviewers understand the true scope of work.
- *MRL 9/30/21 Response: Details are now shown on the Detail Sheet.*
  - TT 10/20/21 Update: In our opinion, this item is resolved.
30. The Applicant is proposing square edges at most outside curb corners which should be radius to avoid tire puncture.
- *MRL 9/30/21 Response: The outside curb corners are now radius.*
  - TT 10/20/21 Update: In our opinion, this item is resolved.
31. Existing dumpsters and other miscellaneous items at the rear of the site have not been shown on the Plans. We anticipate the PEDB may require these to coordinate overall site plan efficiency.
- *MRL 9/30/21 Response: These were shown on the existing conditions plan that was previously sent to the PEDB and is now included in the plan set for the Site Plan.*
  - TT 10/20/21 Update: These items have been shown on the Plans. However, we anticipate the PEDB may require they be located in an organized manner and screened. We recommend the Applicant coordinate with the PEDB regarding these items.

These comments are offered as guides for use during the Town's review and additional comments may be generated during the course of review. The applicant shall be advised that any absence of comment shall not relieve him/her of the responsibility to comply with all applicable local, state and federal regulations for the Project. If you have any questions or comments, please feel free to contact us at (508) 786-2200.

Very truly yours,



Steven M. Bouley, P.E.  
Project Manager



Bradley M. Picard, E.I.T.  
Civil Engineer

P:\21583\143-21583-20006 (PEDB MEDWAY PLZ)\DOCS\MEDWAY PLAZA-PEDBREV(2021-10-20).DOCX



PHASE I

1. INSTALL SUBSURFACE UTILITIES AND DRAINAGE, PLATE STRUCTURES.
2. RECLAIM ASPHALT, GRADE AND PAVE BINDER AND COMPLETE ANY EMERGENCY ACCESS REQUIREMENTS FOR MEDWAY FIRE DEPT.
2. INSTALL END ISLANDS AND CURBING ALONG FRONTAGE AND RAISE STRUCTURES.
3. INSTALL TOP COURSE
4. INSTALL LANDSCAPING
5. INSTALL SIGNAGE AND REMAINDER OF ITEMS LOCATED WITHIN PHASE I AREA.
6. SEALCOAT PHASE II AND PHASE III AREAS AND STRIPE PER THE PLAN (HARD IMPROVEMENTS SUCH AS CURB CAN BE STRIPED)

PHASE II

1. RECLAIM ASPHALT, GRADE AND PAVE BINDER.
2. INSTALL REMAINDER OF CURBING AND LIGHT POLE BASES.
3. INSTALL TOP COURSE, STRIPING AND SIGNAGE
4. INSTALL LANDSCAPING
5. INSTALL REMAINDER OF ITEMS LOCATED WITHIN PHASE II AREA.

PHASE III

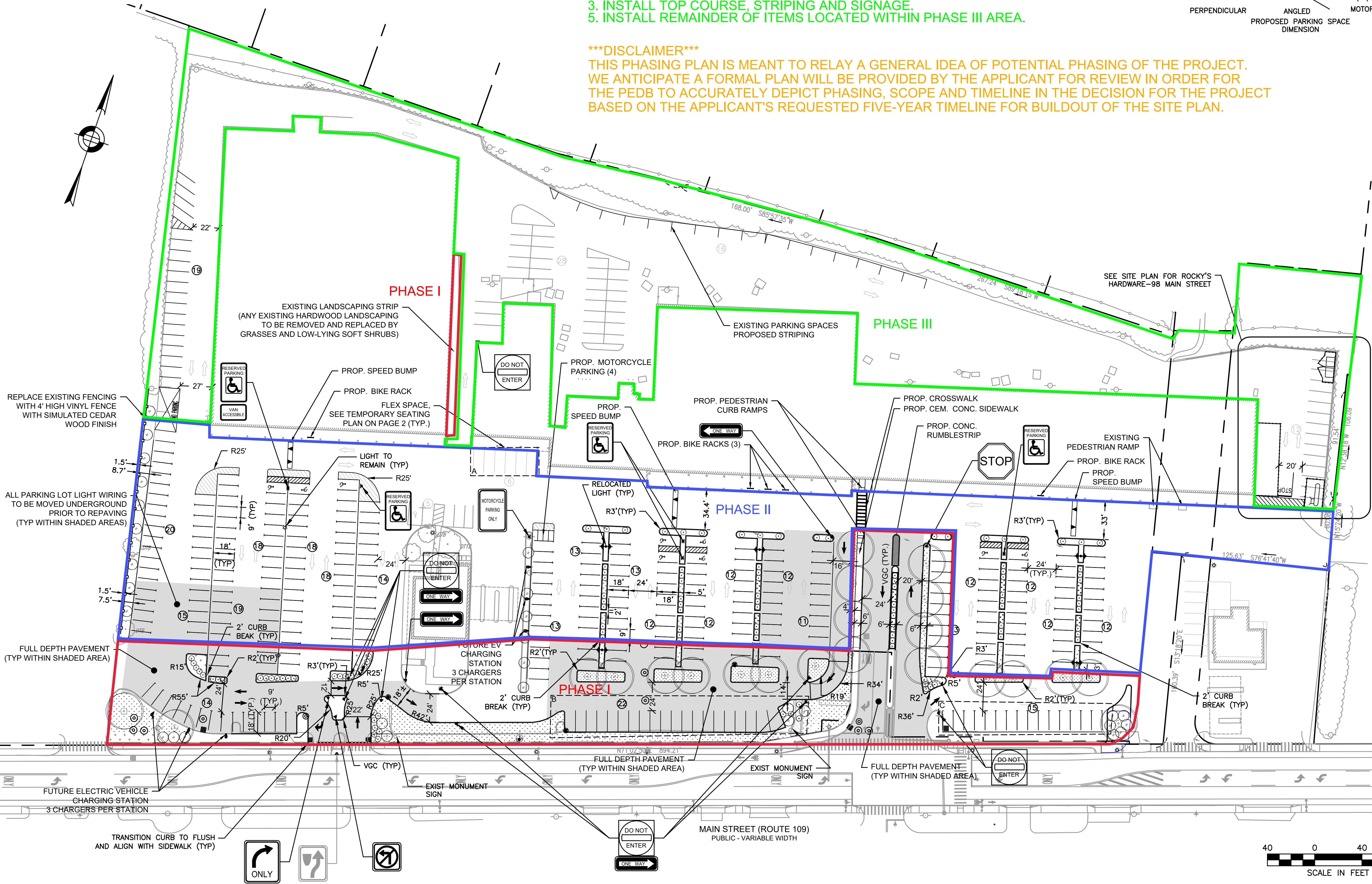
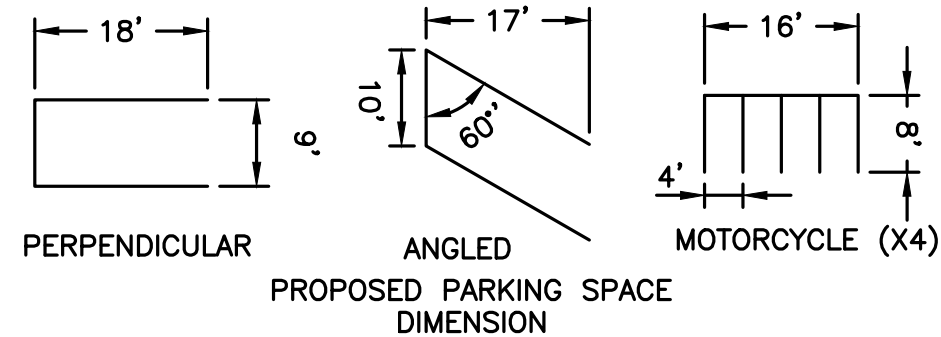
(THIS AREA MAY BE COMBINED WITH PHASE II IF POSSIBLE)

1. RELOCATE DUMPSTERS AND OTHER MOVEABLE SITE AMENITIES.
2. RECLAIM ASPHALT, GRADE AND PAVE BINDER.
3. INSTALL TOP COURSE, STRIPING AND SIGNAGE.
5. INSTALL REMAINDER OF ITEMS LOCATED WITHIN PHASE III AREA.

\*\*\*DISCLAIMER\*\*\*

THIS PHASING PLAN IS MEANT TO RELAY A GENERAL IDEA OF POTENTIAL PHASING OF THE PROJECT. WE ANTICIPATE A FORMAL PLAN WILL BE PROVIDED BY THE APPLICANT FOR REVIEW IN ORDER FOR THE PEDB TO ACCURATELY DEPICT PHASING, SCOPE AND TIMELINE IN THE DECISION FOR THE PROJECT BASED ON THE APPLICANT'S REQUESTED FIVE-YEAR TIMELINE FOR BUILDOUT OF THE SITE PLAN.

PARKING SPACES SUMMARY	
EXISTING	433
TOTAL PROPOSED	433
PROPOSED STANDARD	411
PROPOSED ACCESSIBLE	9
PROPOSED MOTORCYCLE	4
PROPOSED ELECTRIC VEHICLE CHARGING	9
NET CHANGE	0



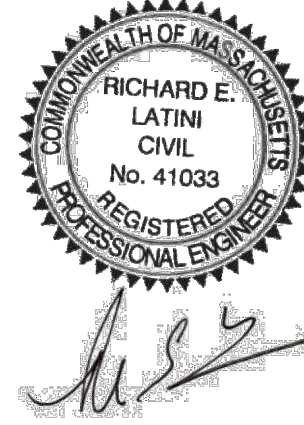
**HOWARD STEIN HUDSON**  
11 Beacon Street, Suite 1010  
Boston, MA 02108  
www.hshassoc.com

PREPARED FOR:

MEDWAY PLACE  
98, 108 & 114 MAIN STREET (ROUTE 109)  
MEDWAY, MA 02053  
NORFOLK COUNTY

REVISIONS:

NO	BY	DATE	DESCRIPTION



PERMIT SET  
NOT FOR CONSTRUCTION

CONCEPTUAL PHASING  
LAYOUT &  
MATERIALS  
PLAN

DATE:	08/20/2021
PROJECT NUMBER:	14041.00
DESIGNED BY:	ML
DRAWN BY:	ML
CHECKED BY:	RL

C1.00



**Gareth I. Orsmond**

100 Summer Street, 22<sup>nd</sup> Floor  
Boston, MA 02110

617.488.8181 voice  
617.824.2020 fax  
gorsmond@pierceatwood.com  
www.pierceatwood.com

*Admitted in:* MA, NH

October 25, 2021

**By Electronic Mail**

Town of Medway Planning and Economic Development Board  
c/o Susan Affleck-Childs, Planning and Economic Development Coordinator  
Town Hall  
155 Village Street  
Medway, MA 02053

Re: Medway Place, 98, 108, 114 Main Street, Medway, Massachusetts  
Application for Major Site Plan Review

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Dear Board Members:

We have had a chance to review Tetra Tech's comments dated October 20, 2021.

Respectfully, please consider Medway Realty's application as comprising solely the revised site plan, entitled "Site Plan for Medway Place, 98, 109, and 114 Main Street (Route 9), Medway, Massachusetts" (the "Revised Site Plan"), and the materials submitted on September 30, 2021. Medway Realty has not proposed and does not propose the phased project described by Tetra Tech, which contemplates paving the entire parking lot and completing all other work within five years and securing this work through performance bonds.

While we referred to phasing at times in our discussions, we have been clear about the three things this entails: (1) completing the improvements shown on the Revised Site Plan upfront, except for the electric vehicle charging stations, which we propose to install within five years but also have doubled the number from what is required for new development projects under the board's regulations; (2) repaving other portions of the parking lot when the paving reaches the end of its useful life, which we estimated to be about five years, but also stated that "this period may be shorter or longer, depending on the condition of the asphalt over time"; and (3) seeing how the proposed improvements work and the post-pandemic world unfolds before considering other changes, such as extending the sidewalk adjacent to the eastern building. The latter two are not points we expect to be formalized in any written decision.



We made this clear in writing in response to the board questioning what we meant by phasing at its July 27<sup>th</sup> hearing. *See, e.g.,* Supplemental Site Plan Submittal, September 30, 2021, Section II.C.10.

By contrast, Tetra Tech would have Medway Realty negotiate and “formalize a phasing plan to be inserted into the plans set so a decision can be written based on that.” This is Tetra Tech’s proposal, not Medway Realty’s. As we have said, Medway Realty is undergoing site plan review voluntarily. It is not required to make improvements of the extent shown on the Revised Site Plan, but offers these improvements in good faith and at substantial cost because it listened to statements by board members and a few town officials who want cosmetic improvements to Medway Place. We have gone to great lengths, have satisfied most comments made by board members, design review committee members, and peer reviewers, and feel that the Revised Site Plan provides significant benefits to the town. We do not agree to the phasing plan proposed by Tetra Tech.

The intent of continuing the October 12<sup>th</sup> hearing was to give Tetra Tech additional time to review the Revised Site Plan and discuss any comments with Medway Realty’s engineer, Howard Stein Hudson (“HSH”), so that we all could avoid surprises and bring this hearing to a productive conclusion. HSH reached out a few times, but Tetra Tech did not discuss anything with HSH before sending its October 20<sup>th</sup> comments. As a result, I am addressing Tetra Tech’s proposed phasing plan in writing now, rather than at the hearing.

Medway Realty is willing to proceed with the improvements shown on the Revised Site Plan in the manner described in its submittals. It is willing to accept reasonable conditions and resolve reasonable engineering issues to ensure that the improvements work as intended; in its opinion, they will. We will be prepared to present the changes shown on the Revised Site Plan and discuss the few non-phasing comments we received at Tuesday’s hearing, but this process must reach its conclusion, and most of what remains is for the board to deliberate and reach a decision by the November 15<sup>th</sup> deadline.

Very truly yours,



Gareth I. Orsmond

GIO/smg

cc: Todd Wilson (by email)

Richard E. Latini, P.E., LEED Green Assoc. (by email)





**October 26, 2021**

**Medway Planning & Economic Development Board  
Meeting**

**Rocky's Hardware Administrative Site  
Plan and Outdoor Display Special  
Permit Public Hearing**

- 10-25-21 memo from Rocky's Vice President Kevin Bradley re: steps taken to address outdoor storage and display issues
- Draft DENIAL decision dated 10-25-21
- Draft APPROVAL decision dated 10-25-21





**To:** Town Of Medway  
**From:** Kevin Bradley  
**Date:** October 25, 2021  
**Subject:** Rocky's Medway Action Steps

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## **Rocky's Medway Action Steps.**

1. I met onsite with District Manager Matt Kelly & Store Manager Chris Rich to come up with a plan to clean up the outside areas of the store as well as the sidewalks, as well as how to prevent it going forward. Below are the action steps taken.
2. I had a meeting with all the buyers for Rocky's and instructed them not to order any palletized product that would need to be displayed from the parking lot/sidewalk. I explained to them that we did not have a permit to display product outdoors.
3. We then rented a large truck to transfer all the existing palletized products to other stores in the area. We also transferred the live good plants that were on the sidewalk to other stores as well.
4. Any product that was outside that the store needed to keep were brought into the store's stockroom.
5. After the store cleaned up all the product outside, they used a landscaping blower to blow off the sidewalk, the side of the store and behind the store. Once it was blown into a pile, it was then shoveled up and put in the dumpster.
6. I directed the store to contact their District Manager and myself if any palletized product comes into their building So that we can take care of it.

Please let me know if you have any questions.

Kevin Bradley 413-519-3172  
Manager of Store Support  
Rocky's Ace Hardware  
40 Island Pond Rd  
Springfield Ma 01118













PLEASE RETURN  
CARTS HERE



















**Board Members**

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



Medway Town Hall  
155 Village Street  
Medway, MA 02053  
Phone (508) 533-3291  
Fax (508) 321-4987  
Email: planningboard  
@townofmedway.org  
www.townofmedway.org

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

REVISED DRAFT – October 25, 2021  
APPROVAL

***Site Plan and Outdoor Display Special Permit***  
***Rocky's Hardware – 98 Main Street***  
***with Waivers and Conditions***

**Decision Date:** \_\_\_\_\_

**Name/Address of Applicant:  
And Permittee** Rocky's Ace Hardware, LLC  
40 Island Pond Road  
Springfield, MA 01118

**Name/Address of Property Owner:** Medway Realty, LLC  
63 Atlantic Avenue  
Boston, MA 02110

**Designated Representative:** Gareth Orsmand  
Pierce Atwood LLP  
100 Summer Street  
Boston, MA 02110

**Site Plan:** *Medway Place Site Plan and Landscape Plan and*  
Prepared by Howard Stein Hudson, Boston, MA  
Dated April 22, 2021 last revised August 17, 2021 to be further  
revised as specified herein.

**Location:** 98 Main Street within Medway Place shopping plaza

**Assessors' Reference:** 40-055

**Zoning District:** Central Business District



**I. PROJECT DESCRIPTION** – Rocky's Hardware proposes to create a 1,200 square foot enclosed, year-round outdoor merchandise display area on a portion of the site that is currently paved, underutilized, and which abuts the eastern end of the Medway Place shopping plaza building where Rocky's Hardware is located at 98 Main Street. The outdoor display area will feature typical hardware store items such as seasonal tools, plants, and other related merchandise. Proposed improvements include installation of fencing and protective bollards. Additionally, the applicant wishes to install a fenced in propane filling station on a 15' x 24' concrete pad, also with protective bollards. A 24' drive aisle will be established between the two uses. The planned improvements result in the loss of ten parking spaces. The planned improvements are shown on *Medway Place Site Plan and Landscape Plan* (Sheets C1.00 and C2.00) dated April 22, 2021 by Howard Stein Hudson of Boston, MA, last revised August 17, 2021. The proposal requires administrative site plan review and an outdoor display special permit pursuant to the Medway Zoning Bylaw; when a project needs both site plan review and a special permit, the Planning and Economic Development Board serves as the permitting granting authority.

**II. VOTE OF THE BOARD** – After reviewing the application and information gathered during the public hearing and review process, the Medway Planning and Economic Development Board (the "Board"), on \_\_\_\_\_, on a motion made by \_\_\_\_\_ and seconded by \_\_\_\_\_, **voted to** \_\_\_\_\_ **with WAIVERS and CONDITIONS** as specified herein, a site plan and an outdoor display special permit for the construction of site improvements for Rocky's Hardware at 98 Main Street as shown on *Medway Place Site Plan and Landscape Plan Temporary Seating Plan and Gate Detail* dated April 22, 2021, last revised \_\_\_\_\_, prepared by Howard Stein Hudson of Boston, MA to be further revised as specified herein.

The motion was \_\_\_\_\_ by a vote of \_\_\_\_\_ in favor and \_\_\_\_\_ opposed.

**Planning & Economic Development Board Member**

**Vote**

Jessica Chabot  
Richard Di Iulio  
Matthew Hayes  
Andy Rodenhiser  
Robert Tucker

NOTE – Mullins Rule certifications were provided by Bob Tucker and Tom Gay for the 8-10-21 public hearing.

**III. PROCEDURAL HISTORY**

- A. June 14, 2021 - Site plan and outdoor display special permit applications and associated materials filed with the Board; the information was filed with the Town Clerk on 6-22-2021
- B. June 23, 2021 – Notice for July 13, 2021 public hearing filed with the Town Clerk and posted at the Town of Medway web site's master meeting calendar.
- C. June 24, 2021 - Project information distributed to Town boards, committees, and departments for review and comment and posted to the Board's web page.
- D. June 24, 2021 – Notice for the July 13, 2021 public hearing was sent to abutters and parties of interest by certified sent mail.
- E. June 28 and July 6, 2021 - Public hearing notice advertised in *Milford Daily News*.



- F. July 13, 2021 – Public hearing begins. The hearing was continued to August 10, August 24 September 14, September 28, 2021 and to October 26, 2021 when a decision was rendered and the hearing was closed.

#### **IV. INDEX OF SITE PLAN DOCUMENTS**

- A. The site plan and special permit applications for the proposed Rocky's outdoor display area and propane tank service area included the following plans and information that were provided to the Board at the time the applications were filed:
1. Administrative Site Plan and Outdoor Display Special Permit applications dated June 8, 2021, project description and narrative, certified abutters' list, and requests for waivers from the *Site Plan Rules and Regulations*.
  2. *Medway Place Site Plan and Landscape Plan and Temporary Seating Plan and Gate Detail* dated April 22, 2021, prepared by Howard Stein Hudson of Boston, MA.
- B. During the course of the Board's review, a variety of other materials were submitted to the Board by the Applicant and its representatives:
1. Rocky's Ace Hardware Garden Center plan dated 7-12-2021 by Sugrue Associates of Smithfield, RI
  2. Rocky's Ace Hardware Garden Center plan, revised 7-13-2021 by Sugrue Associates
  3. Rocky's Ace Hardware Garden Center plan, revised 7-27-21 by Sugrue Associates
  4. Rocky's Ace Hardware Garden Center plan, revised 8-16-21 by Sugrue Associates
  5. Rocky's Ace Hardware Garden Center plan, revised 9-9-21 by Sugrue Associates
  5. Response document by attorney Joel Quick, received 8-19-21 to the discussion and Board comments provided during the 8-10-21 public hearing
  6. *Medway Place Site Plan and Landscape Plan and Temporary Seating Plan and Gate Detail* dated April 22, 2021, revised August 17, 2021 prepared by Howard Stein Hudson of Boston, MA.
  7. Existing Conditions Photometric Plan for Medway Place Shopping Center dated 9-10-21 by Highpoint Engineering, Inc. of Canton, MA
  8. *Rocky's Ace Hardware Dumpster Fence Details*, dated 8-30-21 by Sugrue & Associates.
  9. Memorandum dated 10-25-21 from Rocky's Vice President Kevin Bradley re: steps taken to address outdoor storage and display issues.
- C. During the course of the Board's review, a variety of materials were submitted to the Board by its staff, consultants, and other Town Boards and Committees.
1. Project review memorandum dated 7-8-2021 from Susy Affleck-Childs, Planning and Economic Development Coordinator
  2. Review comments dated 7-11-2021 from Police Sergeant Jeff Watson
  3. Review comments dated 7-12-2021 from Compliance Coordinator Erika Robertson, Medway Building Department
  4. Review letters dated 7-12-2021, 8-5-2021 and 8-18-2021 from the Board's engineering consultant, Steve Bouley of Tetra Tech
  5. Review comments dated 6-24-2021 and 8-24-21 from Deputy Fire Chief Mike Fasolino
  6. Review comments dated 8-24-2021 from Kelly Millette, Medway DPW

- V. TESTIMONY** - In addition to the site plan application materials as submitted and provided during the course of the Board's review, the Board also received verbal testimony from:

- Steve Bouley, P.E. of Tetra Tech, Inc., the Town's Consulting Engineer



- Joel Quick, attorney, Pierce Atwood
- Todd Wilson, Medway Realty, LLC
- Matt Kelly, Rocky's Hardware Regional Manager
- Chris Rich, Rocky's Hardware Medway Store Manager
- Kevin Bradley, Rocky's Vice President
- Attorney Michael Brown of Adler Pollock & Sheehan presenting Colbea Enterprises, LLC owners of the adjacent Shell gas station

**VI. FINDINGS** – The Board, at its meeting on \_\_\_\_\_, on a motion made by \_\_\_\_\_ and seconded by \_\_\_\_\_, voted to \_\_\_\_\_ the following FINDINGS regarding the special permit application for Rocky's Hardware at 98 Main Street. The motion was \_\_\_\_\_ by a vote of \_\_\_\_\_ in favor and \_\_\_\_\_ opposed.

**Special Permit Findings pursuant to Medway Zoning Bylaw Section 3.4.**

- 1. The proposed site is an appropriate location for the proposed use.** Rocky's Hardware is a new anchor tenant within the Medway Place shopping plaza, a retail shopping center first established in the mid 1960's. The center is located within Medway's central business zoning district which includes other shopping centers – Drybridge Crossing, Gould's Plaza, and Medway Commons. Rocky's is located in the easternmost section of Medway Place adjacent to an existing paved, but underutilized area where the proposed outdoor garden center and propane filling station would be located. This area has typically had minimal traffic and is not generally used for customer parking. An outdoor garden center and propane filling station are customary accessory uses to a retail hardware store. Placing these facilities on the side of the building near underutilized parking spaces will allow store staff to direct people to those specific nearby parking spaces to promote easier loading of merchandise.
- 2. Adequate and appropriate facilities will be provided for the operation of the proposed use.** The proposed enclosed garden center is modestly sized at 1,200 sq. ft. and the propane filling station area will be positioned on a 15' by 24' concrete pad, also enclosed. Rocky's Hardware employees will be responsible for moving merchandise into and out of the garden center, assisting customers to load merchandise from the garden center into vehicles, and filling propane tanks for customers. The site plan has been reviewed by the Board's consulting engineer and the Town's safety and emergency personnel and has been modified to address concerns raised about the size of the outdoor garden center, positioning of the propane tank, width of the traffic aisle, traffic routing, and safety signage. Existing exterior building lighting will remain in place; no additional lighting is planned for these accessory uses.
- 3. The proposed use as developed will not create a hazard to abutters, vehicles, pedestrians or the environment.** Abutters to the east, south and west are all commercial uses. During the public hearing, the immediate abutter, Colbea Enterprises (Shell gas station) raised concerns about Rocky's customers using Shell station parking spaces; the parties met and suitable parking signage will be added to the Shell building to specify Shell customer parking only. There is a residential neighborhood on the north side of the property, however those homes are screened from the shopping center by a fence and vegetated buffer; those abutters were notified of the hearing and no one attended the hearing or expressed any concerns or comments. The location of the propane tank and outdoor garden center were reviewed by the Medway Fire Department which will have oversight and regular permitting for the propane tank. The Fire Department offered comments on its location to ensure that fire trucks can safely and easily access the



building, on suitable safety signage, and various protective measures which have been incorporated into the site plan.

4. **The proposed use will not cause undue traffic congestion or conflicts in the immediate area.** As conditioned herein (Condition\_\_\_\_) delivery vehicles to Rocky's are not permitted to use the driveway area adjacent to (east of) the outdoor garden center and propane filling station area to access the back of the store for deliveries. This will reduce traffic conflicts in this immediate area. The goal of locating these facilities in the specified area at the eastern end of the building is to keep open the main channel for vehicles and pedestrians in the front of the store.
5. **The proposed use will not be detrimental to the adjoining properties due to lighting, flooding, odors, dust, noise, vibration, refuse materials, or other undesirable visual, site or operational attributes of the proposed use.** The proposed uses do not necessitate any changes to lighting. There will be no change to the amount of impervious surface area so no increased flooding impacts are anticipated. There will be no notable increase in odors, dust or vibration. The existing dumpster servicing Rocky's will be enclosed which will reduce that undesirable visual feature; the dumpster enclosure details are included on the site plan. The planned additional uses are reasonable accessory extensions of the main hardware store retail use.
6. **The proposed use as developed will not adversely affect the surrounding neighborhood or significantly alter the character of the zoning district.** The proposed uses are customary accessory uses associated with a retail hardware store. The modest size of the garden center (1,200 sq. ft.) will not significantly alter the character of the central business zoning district. The impacts of these uses on the adjacent neighborhood will not be different than those from the existing shopping center's operation.
7. **The proposed use is in harmony with the general purpose and intent of the Zoning Bylaw.** The Zoning Bylaw's Table of Uses specifies a wide array of permitted business and retail uses for the central business district. The Bylaw authorizes outdoor display areas in the central business zoning district by special permit. By going through the special permit process, the location of these facilities is permanently designated and concerns for vehicle and pedestrian safety have been addressed.
8. **The proposed use is consistent with the goals of the Medway Master Plan.** The use is consistent with the Master Plan's goal of further economic development within the Town's existing commercial area. As a regional hardware store, Rocky's has wide name recognition and its services and merchandise provide a draw to customers to the Medway Place shopping plaza, thus serving to strengthen the center's viability and importance to the community.
9. **The proposed use will not be detrimental to the public good.** For all the above reasons, the impacts of the proposed uses will not outweigh the beneficial services to be provided to the community. Potential adverse effects have been mitigated and addressed in the conditions included in this decision in Section VIII.

**Planning & Economic Development Board Member**

**Vote**

Jessica Chabot  
Richard Di Iulio  
Matthew Hayes  
Andy Rodenhiser  
Robert Tucker



**VII. WAIVERS** – At its \_\_\_\_\_ meeting, the Board, on a motion made by \_\_\_\_\_, and seconded by \_\_\_\_\_, voted to \_\_\_\_\_ waivers from the following provisions of Section 206-3 of the *Rules and Regulations for the Submission and Approval of Site Plans*, as amended October 8, 2019. The Board's action and reasons for approving each waiver request are listed below. All waivers are subject to the Special and General Conditions of Approval, which follow this section.

The motion was \_\_\_\_\_ by a vote of \_\_\_\_\_ in favor and \_\_\_\_\_ opposed.

**Planning & Economic Development Board Member** **Vote**

Jessica Chabot  
Richard Di Iulio  
Matthew Hayes  
Andy Rodenhiser  
Robert Tucker

**Administrative Site Plan Submittal Requirements/Plan Contents**

1. **Section 206-3 Stormwater Drainage Evaluation Report.** Concurrent with this application, property owner Medway Realty LLC is in public hearing with the Planning and Economic Development for a site plan for the full Medway Place shopping plaza. As part of that application, a full stormwater report and drainage plan has been prepared, submitted and reviewed by the Board's consulting engineer and the Medway Department of Public Works. The specific site for these proposed Rocky's improvements is located on existing asphalt so there is no increase in impervious surface. The recently installed stormwater infrastructure for the plaza has been added to the Rocky's site plan. *For the foregoing reasons, the Board APPROVES this waiver request as being consistent with the purpose and intent of the Site Plan Rules and Regulations which will have no significant detriment to the achievement of any of the purposes of Site Plan Review and Approval.*

**VIII. CONDITIONS** - The *Special and General Conditions* included in this *Decision* shall assure that the Board's \_\_\_\_\_ of this site plan and special permit is consistent with the *Zoning Bylaw* and the *Site Plan Rules and Regulations*, that the comments of various Town boards and public officials have been adequately addressed, and that concerns of abutters and other town residents which were aired during the public hearing process have been carefully considered. The Board's \_\_\_\_\_ is subject to the following conditions.

**SPECIFIC CONDITIONS OF APPROVAL**

- A. **Plan Endorsement** - Within one hundred twenty days after the Board has filed the *Decision* with the Town Clerk, the site plan for Rocky's Hardware dated April 21, 2021, last revised August 17, 2021, prepared by Howard Stein Hudson of Boston, MA shall be further revised to reflect all Conditions and required revisions and additions, including those as follows, and shall be submitted to the Board to review for compliance with the Board's *Decision*. *(Said plan is hereinafter referred to as the Plan)*. The Applicant shall provide a set of the revised Plan in its final form to the Board for its signature/endorsement.
- B. **Plan Revisions** – Prior to plan endorsement, the following plan revisions shall be made to the April 21, 2021 site plan, last revised August 17, 2021, to be approved by the Board.



1. The plan sheets shall be revised to comply with Section 206-4 E of the Site Plan Rules and Regulations including the addition of a cover sheet to include approved waivers, index, signature box, etc.
2. Plan shall be formatted suitably for recording at the Norfolk County Registry of Deeds

**C. Use Limitations**

1. The permittee shall not place fertilizers, de-icing chemicals or other substances in the outdoor garden center that may enter and create issues with the Town's MS4 stormwater.
2. Hours of operation – The outdoor garden center and the propane tank filling station shall maintain the same hours of operation as the retail store.
3. Outdoor Storage – Consistent with the Zoning Bylaw, Table 1 Schedule of Uses, outside storage as defined in the Zoning Bylaw of materials associated with a business operating in a building on the premises is not permitted in the Central Business District.
4. Other Outdoor Display - This decision does not apply to or authorize the applicant's use of the outdoor sidewalk area in front of the Rocky's Hardware store for product display purposes. That current activity is a violation of the Zoning Bylaw. Such activity requires a separate special permit from the Zoning Board of Appeals.
- 5.
- 6.

**E. Other Conditions**

1. Deliveries for all Rocky's Hardware merchandise shall be from behind the store, not through the store's front entrance or gate to the garden center. The traffic route for delivery vehicles shall be one-way (west to east) from the far western end of the shopping center complex and around the rear of the buildings to the back of the Rocky's store. No delivery vehicles for Rocky's merchandise are permitted to access its back unloading area via the paved area and drive aisle at the easternmost end of the shopping center building where the Rocky's garden center and propane filling station are located.
2. No signage other than the safety signs shown on the site plan is allowed for the propane tank and filling station area. No product signage or banners are allowed on the fencing for the outdoor garden center.
3. The permittee shall comply with Town of Medway water restrictions issued by the Department of Public Works as such apply to the watering of plant materials located within the garden center.

**GENERAL CONDITIONS OF APPROVAL**

- A. **Fees** - Prior to site plan endorsement by the Board, the Permittee shall pay:



1. the balance of any outstanding plan review fees owed to the Town for review of the site plan by the Town's engineering, planning or other consultants; and
2. any construction inspection fee that may be required by the Board; and
3. any other outstanding expenses or obligations due the Town of Medway pertaining to this property, including real estate and personal property taxes business licenses, water/sewer bills, etc.

The Permittee's failure to pay these fees in their entirety shall be reason for the Board to withhold plan endorsement.

- B. **Other Permits** – This decision does not relieve the Permittee from its responsibility to obtain, pay and comply with all other required federal, state and Town permits. The contractor for the Permittee or assigns shall obtain, pay and comply with all other required Town permits.
- C. **Document/Plan Recording** – After conclusion of the 20-day appeal period, the Permittee shall file this decision and endorsed plan with the Norfolk County Registry of Deeds. Within thirty days of recording, the Permittee or assign shall provide the Board and the Building Commissioner with evidence of such recording.
- D. **Restrictions on Construction Activities** – During construction, all local, state and federal laws shall be followed regarding noise, vibration, dust and blocking of Town roads. The Permittee and its contractors shall at all times use all reasonable means to minimize inconvenience to abutters and residents in the general area. The following specific restrictions on construction activity shall apply.
1. **Construction Time** - Construction work at the site and the operation of construction equipment including truck/vehicular and machine start-up and movement shall commence no earlier than 7 a.m. and shall cease no later than 6 p.m. Monday – Saturday. No construction shall take place on Sundays or legal holidays without the advance approval of the Building Commissioner.
  2. **Neighborhood Relations** – The Permittee shall notify neighbors in the general area around the site when site work and construction are scheduled to begin and provide a phone number for them to use for questions and concerns that arise during construction.
  3. The Permittee shall take all measures necessary to ensure that no excessive dust leaves the premises during construction including use of water spray to wet down dusty surfaces.
  4. There shall be no tracking of construction materials onto any public way. Daily sweeping of roadways adjacent to the site shall be done to ensure that any loose gravel/dirt is removed from the roadways and does not create hazardous or deleterious conditions for vehicles, pedestrians or abutting residents. In the event construction debris is carried onto a public way, the Permittee shall be responsible for all clean-up of the roadway which shall occur as soon as possible and in any event within twelve hours of its occurrence.
  5. The Permittee is responsible for having the contractor clean-up the construction site and the adjacent properties onto which construction debris may fall, on a daily basis.



6. All erosion and siltation control measures shall be installed by the Permittee prior to the start of construction and observed by the Board's consulting engineer and maintained in good repair throughout the construction period.
7. *Construction Traffic/Parking* – During construction, adequate provisions shall be made on-site for the parking, storing, and stacking of construction materials and vehicles. All parking for construction vehicles and construction related traffic shall be maintained on site. No parking of construction and construction related vehicles shall take place on adjacent public or private ways or interfere with the safe movement of persons and vehicles on adjacent properties or roadways.
8. *Noise* - Construction noise shall not exceed the noise standards as specified in the *Bylaw*, SECTION V. USE REGULATIONS, Sub-Section B. Area Standards, Paragraph 2. b).

**E. Construction Oversight**

1. Construction Account
  - a) Inspection of infrastructure and utility construction, installation of site amenities including landscaping, and the review of legal documents by Town Counsel is required. Prior to plan endorsement, the Permittee shall establish a construction account with the Board. The funds may be used at the Board's discretion to retain professional outside consultants to perform the items listed above as well as the following other tasks - inspect the site during construction/installation, identify what site plan work remains to be completed, prepare a bond estimate, conduct other reasonable inspections until the site work is completed and determined to be satisfactory, review as-built plans, and advise the Board as it prepares to issue a *Certificate of Site Plan Completion*.
  - b) Prior to plan endorsement, the Permittee shall pay an advance toward the cost of these services to the Town of Medway. The advance amount shall be determined by the Board based on an estimate provided by the Town's Consulting Engineer.
  - c) Depending on the scope of professional outside consultant assistance that the Board may need, the Permittee shall provide supplemental payments to the project's construction inspection account, upon invoice from the Board.
  - d) Any funds remaining in the Permittee's construction inspection account after the *Certificate of Site Plan Completion* is issued shall be returned to the Permittee.
2. Board members, its staff, consultants or other designated Town agents and staff shall have the right to inspect the site at any time during construction, for compliance with the endorsed site plan and the provisions of this *Decision*.
3. If applicable, the Department of Public Works may conduct inspections for any construction work occurring in the Town's right-of way in conjunction with a Town of Medway Street Opening/Roadway Access Permit.
4. The Permittee shall have a professional engineer licensed in the Commonwealth of Massachusetts conduct progress inspections of the construction of the approved site improvements. Inspections shall occur at least on a monthly basis. The engineer shall



prepare a written report of each inspection and provide a copy to the Board within 5 days of inspection.

**F. On-Site Field Changes**

1. During construction, the Permittee may be authorized to make limited, minor, on-site field changes to the approved plan based on unforeseen site or job conditions, situations, or emergencies necessitated by field conditions or due to practical considerations. These field changes shall not alter items which may affect the site's compliance with this *Decision* and the Bylaw nor conflict with a specific condition of the *Decision*. Field changes shall not substantially alter the intent, layout or design of the endorsed site plan.
2. Prior to undertaking such field changes, the Permittee and/or contractor shall discuss the possible field changes with the Town's Consulting Engineer and submit a letter and drawings to the Planning and Economic Development Coordinator and the Building Commissioner describing the proposed changes and what conditions, situations, or emergencies necessitate such changes. In accordance with Section 3.5.2.C of the Bylaw, the Building Commissioner may determine that the field change is insubstantial, authorize the change, and so notify the Board. Otherwise, the Board shall review the proposed field changes at a public meeting and determine whether the proposed field changes are reasonable and acceptable based on the unforeseen conditions, situations, or emergencies and whether other options are feasible or more suitable. A written authorization of field change will be provided. Any approved field change shall be reflected in the as-built plan to be provided at project completion.

**G. Modification of Plan and/or Decision**

1. Proposed modifications, not including on-site field changes, to the *Decision* or endorsed plan shall be subject to review by the Board.
2. This site plan approval is subject to all subsequent conditions that may be imposed by other Town departments, boards, agencies or commissions. Any changes to the site plan that may be required by the decisions of other Town boards, agencies or commissions shall be submitted to the Board for review as site plan modifications.
3. Any work that deviates from the approved site plan or this *Decision* shall be a violation of the *Bylaw*, unless the Permittee requests approval of a plan modification pursuant to Section 3.5.2.A.3.c. and such approval is provided in writing by the Board.
4. The request for a modification to a previously approved site plan shall be subject to the same application and review process including a public hearing. Whenever additional reviews by the Board, its staff or consultants are necessary due to proposed site plan modifications, the Permittee shall be billed and be responsible for all supplemental costs including filing fees, plan review fees and all costs associated with another public hearing including legal notice and abutter notification. If the proposed revisions affect only specific limited aspects of the site, the Board may reduce the scope of the required review and waive part of the filing and review fees.
5. The Board shall issue a modification decision, file such with the Town Clerk, and provide copies to the Building Commissioner and other Town officials and the Permittee. Any



modification approved by the Board shall be made a permanent part of the approved site plan project documents and shall be shown on the final as-built plan.

H. **Compliance with Plan and Decision**

1. The Permittee shall construct all improvements in compliance with the approved and endorsed site plan and this *Decision* and any modifications thereto.
2. The Board or its agent(s) may use all legal options available to it, including referring any violation to the Building Commissioner/Zoning Enforcement Officer for appropriate enforcement action, to ensure compliance with the foregoing Conditions of Approval.
3. The Conditions of Approval are enforceable under Section 3.1. F. of the Bylaw (non-criminal disposition) and violations or non-compliance are subject to the appropriate fine.

I. **Project Completion**

1. Site plan approval shall lapse after two years of the grant thereof if substantial use has not commenced except for good cause. The work shown on the approved site plan shall be completed by the Permittee or its assignees within two years of the date of plan endorsement. Upon receipt of a written request from the Permittee filed at least thirty days prior to the date of expiration, the Board may grant an extension for good cause. The request shall state the reasons for the extension and also the length of time requested. If no request for extension is filed and approved, the site plan approval shall lapse and may be reestablished only after a new filing, hearing and decision.
2. Prior to project completion, the Permittee shall request a ***Certificate of Site Plan Completion*** from the Board. The ***Certificate*** serves as the Board's confirmation that the completed work conforms to the approved site plan and any conditions and modifications thereto, including the construction of any required on and off-site improvements. The ***Certificate*** also serves to release any security/performance guarantee that has been provided to the Town of Medway. To secure a ***Certificate*** of Site Plan Completion, the Permittee shall:
  - a) provide the Board with written certification from a Professional Engineer registered in the Commonwealth of Massachusetts that all building and site work has been completed in substantial compliance with the approved and endorsed site plan, and any modifications thereto; and
  - b) submit an electronic version of an As-Built Plan, prepared by a registered Professional Land Surveyor or Engineer registered in the Commonwealth of Massachusetts, to the Board for its review and approval. The As-Built Plan shall show actual as-built locations and conditions of all buildings and site work shown on the original site plan and any modifications thereto. The As-Built Plan shall also show all utilities found during the construction process. The final As-Built Plan shall also be provided to the Town in CAD/GIS file format per MASS GIS specifications.

- J. **Construction Standards** - All construction shall be completed in full compliance with all applicable local, state and federal laws, including but not limited to the Americans with Disabilities Act and the regulations of the Massachusetts Architectural Access Board for handicap accessibility.



- K. **Conflicts** – If there is a conflict between the site plan and the *Decision's* Conditions of Approval, the *Decision* shall rule. If there is a conflict between this *Decision* and/or site plan and the Bylaw, the Bylaw shall apply.

**IX. APPEAL** – The Board and the Applicant have complied with all statutory requirements for the issuance of this *Decision* on the terms set forth herein. A copy of this *Decision* will be filed with the Medway Town Clerk and mailed to the Applicant/Permittee and notice will be mailed to all parties in interest as provided in G.L. c. 40A §15.

Any person aggrieved by the *Decision* of the Board may appeal to the appropriate court pursuant to Massachusetts General Laws, Chapter 40A, §17, and shall be filed within twenty days after the filing of this *Decision* in the office of the Medway Town Clerk.

###



Decision Date: \_\_\_\_\_

**AYE:**

**NAY:**

\_\_\_\_\_  
*Signature* *Printed Name*

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*Signature* *Printed Name*

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*Signature* *Printed Name*

**ATTEST:**

\_\_\_\_\_  
Susan E. Affleck-Childs  
*Planning & Economic Development Coordinator*

\_\_\_\_\_  
Date

**COPIES TO:** Michael Boynton, Town Manager  
Mike Fasolino, Deputy Fire Chief  
Bridget Graziano, Conservation Agent  
Donna Greenwood, Assessor  
Beth Hallal, Health Agent  
Jeff Lynch, Fire Chief  
Jack Mee, Building Commissioner and Zoning Enforcement Officer  
Pete Pelletier, DPW Deputy Director  
Joanne Russo, Treasurer/Collector  
Barbara Saint Andre, Director of Community and Economic Development  
Jeff Watson, Police Department Safety Officer  
Gareth Orsmond, Pierce and Atwood  
Joel Quick, Pierce Atwood  
Steven Bouley, Tetra Tech



### Board Members

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



Medway Town Hall  
155 Village Street  
Medway, MA 02053  
Phone (508) 533-3291  
Fax (508) 321-4987  
Email: [planningboard@townofmedway.org](mailto:planningboard@townofmedway.org)  
[www.townofmedway.org](http://www.townofmedway.org)

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

REVISED DRAFT – October 25, 2021  
DENIAL

### ***Site Plan and Outdoor Display Special Permit Rocky's Hardware – 98 Main Street with Waivers and Conditions***

**Decision Date:** \_\_\_\_\_

**Name/Address of Applicant:  
And Permittee** Rocky's Ace Hardware, LLC  
40 Island Pond Road  
Springfield, MA 01118

**Name/Address of Property Owner:** Medway Realty, LLC  
63 Atlantic Avenue  
Boston, MA 02110

**Designated Representative:** Gareth Orsmand  
Pierce Atwood LLP  
100 Summer Street  
Boston, MA 02110

**Site Plan:** *Medway Place Site Plan and Landscape Plan and  
Prepared by Howard Stein Hudson, Boston, MA  
Dated April 22, 2021 last revised August 17, 2021 to be further  
revised as specified herein.*

**Location:** 98 Main Street within Medway Place shopping plaza

**Assessors' Reference:** 40-055

**Zoning District:** Central Business District



**I. PROJECT DESCRIPTION** – Rocky's Hardware proposes to create a 1,200 square foot enclosed, year-round outdoor merchandise display area on a portion of the site that is currently paved, underutilized, and which abuts the eastern end of the Medway Place shopping plaza building where Rocky's Hardware is located at 98 Main Street. The outdoor display area will feature typical hardware store items such as seasonal tools, plants, and other related merchandise. Proposed improvements include installation of fencing and protective bollards. Additionally, the applicant wishes to install a fenced in propane filling station on a 15' x 24' concrete pad, also with protective bollards. A 24' drive aisle will be established between the two uses. The planned improvements result in the loss of ten parking spaces. The planned improvements are shown on *Medway Place Site Plan and Landscape Plan* (Sheets C1.00 and C2.00) dated April 22, 2021 by Howard Stein Hudson of Boston, MA, last revised August 17, 2021. The proposal requires administrative site plan review and an outdoor display special permit pursuant to the Medway Zoning Bylaw; when a project needs both site plan review and a special permit, the Planning and Economic Development Board serves as the permitting granting authority.

**II. VOTE OF THE BOARD** – After reviewing the application and information gathered during the public hearing and review process, the Medway Planning and Economic Development Board (the "Board"), on \_\_\_\_\_, on a motion made by \_\_\_\_\_ and seconded by \_\_\_\_\_, **voted to** \_\_\_\_\_ a site plan and an outdoor display special permit for the construction of site improvements for Rocky's Hardware at 98 Main Street as shown on *Medway Place Site Plan and Landscape Plan Temporary Seating Plan and Gate Detail* dated April 22, 2021, last revised August 17, 2021, prepared by Howard Stein Hudson of Boston, MA.

The motion was \_\_\_\_\_ by a vote of \_\_\_\_\_ in favor and \_\_\_\_\_ opposed.

**Planning & Economic Development Board Member**

**Vote**

Jessica Chabot  
Richard Di Iulio  
Matthew Hayes  
Andy Rodenhiser  
Robert Tucker

NOTE – Mullins Rule certifications were provided by Bob Tucker and Tom Gay for the 8-10-21 public hearing.

**III. PROCEDURAL HISTORY**

- A. June 14, 2021 - Site plan and outdoor display special permit applications and associated materials filed with the Board; the information was filed with the Town Clerk on 6-22-2021
- B. June 23, 2021 – Notice for July 13, 2021 public hearing filed with the Town Clerk and posted at the Town of Medway web site's master meeting calendar.
- C. June 24, 2021 - Project information distributed to Town boards, committees, and departments for review and comment and posted to the Board's web page.
- D. June 24, 2021 – Notice for the July 13, 2021 public hearing was sent to abutters and parties of interest by certified sent mail.
- E. June 28 and July 6, 2021 - Public hearing notice advertised in *Milford Daily News*.
- F. July 13, 2021 – Public hearing begins. The hearing was continued to August 10, August 24 September 14, September 28, 2021 and to October 26, 2021 when a decision was rendered and the hearing was closed.



#### IV. INDEX OF SITE PLAN DOCUMENTS

- A. The site plan and special permit applications for the proposed Rocky's outdoor display area and propane tank service area included the following plans and information that were provided to the Board at the time the applications were filed:
1. Administrative Site Plan and Outdoor Display Special Permit applications dated June 8, 2021, project description and narrative, certified abutters' list, and requests for waivers from the *Site Plan Rules and Regulations*.
  2. *Medway Place Site Plan and Landscape Plan and Temporary Seating Plan and Gate Detail* dated April 22, 2021, prepared by Howard Stein Hudson of Boston, MA.
- B. During the course of the Board's review, a variety of other materials were submitted to the Board by the Applicant and its representatives:
1. Rocky's Ace Hardware Garden Center plan dated 7-12-2021 by Sugrue Associates of Smithfield, RI
  2. Rocky's Ace Hardware Garden Center plan, revised 7-13-2021 by Sugrue Associates
  3. Rocky's Ace Hardware Garden Center plan, revised 7-27-21 by Sugrue Associates
  4. Rocky's Ace Hardware Garden Center plan, revised 8-16-21 by Sugrue Associates
  5. Rocky's Ace Hardware Garden Center plan, revised 9-9-21 by Sugrue Associates
  5. Response document by attorney Joel Quick, received 8-19-21 to the discussion and Board comments provided during the 8-10-21 public hearing
  6. *Medway Place Site Plan and Landscape Plan and Temporary Seating Plan and Gate Detail* dated April 22, 2021, revised August 17, 2021 prepared by Howard Stein Hudson of Boston, MA.
  7. Existing Conditions Photometric Plan for Medway Place Shopping Center dated 9-10-21 by Highpoint Engineering, Inc. of Canton, MA
  8. *Rocky's Ace Hardware Dumpster Fence Details*, dated 8-30-21 by Sugrue & Associates.
  9. Memorandum dated October 25, 2021 from Kevin Bradley, Rocky's Vice President regarding action steps taken to address outdoor storage and display.
- C. During the course of the Board's review, a variety of materials were submitted to the Board by its staff, consultants, and other Town Boards and Committees.
1. Project review memorandum dated 7-8-2021 from Susy Affleck-Childs, Planning and Economic Development Coordinator
  2. Review comments dated 7-11-2021 from Police Sergeant Jeff Watson
  3. Review comments dated 7-12-2021 from Compliance Coordinator Erika Robertson, Medway Building Department
  4. Review letters dated 7-12-2021, 8-5-2021 and 8-18-2021 from the Board's engineering consultant, Steve Bouley of Tetra Tech
  5. Review comments dated 6-24-2021 and 8-24-21 from Deputy Fire Chief Mike Fasolino
  6. Review comments dated 8-24-2021 from Kelly Millette, Medway DPW

#### V. TESTIMONY - In addition to the site plan application materials as submitted and provided during the course of the Board's review, the Board also received verbal testimony from:

- Steve Bouley, P.E. of Tetra Tech, Inc., the Town's Consulting Engineer
- Joel Quick, attorney, Pierce Atwood
- Todd Wilson, Medway Realty, LLC
- Matt Kelly, Rocky's Hardware Regional Manager



- Chris Rich, Rocky's Hardware Medway Store Manager
- Kevin Bradley, Rocky's Vice President
- Attorney Michael Brown of Adler Pollock & Sheehan presenting Colbea Enterprises, LLC owners of the adjacent Shell gas station

**VI. FINDINGS** – The Board, at its meeting on \_\_\_\_\_, on a motion made by \_\_\_\_\_ and seconded by \_\_\_\_\_, voted to \_\_\_\_\_ the following FINDINGS regarding the special permit application for Rocky's Hardware at 98 Main Street. The motion was \_\_\_\_\_ by a vote of \_\_\_\_\_ in favor and \_\_\_\_\_ opposed.

**Special Permit Findings pursuant to Medway Zoning Bylaw Section 3.4.**

- 1. The proposed site is an appropriate location for the proposed use.** Rocky's Hardware is a new anchor tenant within the Medway Place shopping plaza, a retail shopping center first established in the mid 1960's. The center is located within Medway's central business zoning district which includes other shopping centers – Drybridge Crossing, Gould's Plaza, and Medway Commons. Rocky's is located in the easternmost section of Medway Place adjacent to an existing paved, but underutilized area where the proposed outdoor garden center and propane filling station would be located. This area has typically had minimal traffic and is not generally used for customer parking. An outdoor garden center and propane filling station are customary accessory uses to a retail hardware store. Placing these facilities on the side of the building near underutilized parking spaces will allow store staff to direct people to those specific nearby parking spaces to promote easier loading of merchandise.
- 2. Adequate and appropriate facilities will be provided for the operation of the proposed use.** The proposed enclosed garden center is modestly sized at 1,200 sq. ft. and the propane filling station area will be positioned on a 15' by 24' concrete pad, also enclosed. Rocky's Hardware employees will be responsible for moving merchandise into and out of the garden center, assisting customers to load merchandise from the garden center into vehicles, and filling propane tanks for customers. The site plan has been reviewed by the Board's consulting engineer and the Town's safety and emergency personnel and has been modified to address concerns raised about the size of the outdoor garden center, positioning of the propane tank, width of the traffic aisle, traffic routing, and safety signage. Existing exterior building lighting will remain in place; no additional lighting is planned for these accessory uses. However, the Board does not believe that the space available on the site for these uses is adequate, that the garden center will not be of sufficient size to accommodate the display of the full array of goods and products resulting in an overflow of products and outdoor storage both behind and in front of the store. This is evidenced by Rocky's ongoing non-compliance with the outdoor storage requirements of the Zoning Bylaw and the non-compliance with the outdoor display requirements for the front sidewalk, despite repeated notifications and requests to remedy.
- 3. The proposed use as developed will not create a hazard to abutters, vehicles, pedestrians or the environment.** Abutters to the east, south and west are all commercial uses. During the public hearing, the immediate easterly abutter, Colbea Enterprises (Shell gas station), raised concerns about Rocky's customers using Shell station parking spaces; the parties met and suitable parking signage will be added to the Shell building to specify Shell customer parking only. There is a residential neighborhood on the north side of the property, however those homes are screened from the shopping center by a fence and vegetated buffer. Those abutters were notified of the hearing and no one attended the hearing or expressed any concerns or comments. The locations of the propane tank and outdoor garden center were reviewed by the Medway Fire



Department which will have oversight and regular permitting for the propane tank. The Fire Department offered comments on their location to ensure that fire trucks can safely and easily access the building, on suitable safety signage, and other protective measures, all of which have been incorporated into the site plan.

4. **The proposed use will not cause undue traffic congestion or conflicts in the immediate area.** Delivery vehicles to Rocky's are not permitted to use the driveway area between the outdoor garden center and propane filling station area to access the back of the store for deliveries. This requirement is intended to reduce traffic conflicts in this immediate area. The goal of locating these facilities in the specified area at the eastern end of the shopping center is to keep open the main channel for vehicles and pedestrians in the front of the store. The Applicant has agreed to implement this limitation however it is not evident that Rocky's vendors are complying with this provision.
5. **The proposed use will not be detrimental to the adjoining properties due to lighting, flooding, odors, dust, noise, vibration, refuse materials, or other undesirable visual, site or operational attributes of the proposed use.** The proposed uses do not necessitate any changes to lighting. There will be no change to the amount of impervious surface area so no increased flooding impacts are anticipated. There will be no notable increase in odors, dust or vibration. The existing dumpster servicing Rocky's will be enclosed which will reduce that undesirable visual feature; the dumpster enclosure details are included on the site plan. The planned additional uses are reasonable accessory extensions of the main hardware store retail use.
6. **The proposed use as developed will not adversely affect the surrounding neighborhood or significantly alter the character of the zoning district.** The proposed uses are customary accessory uses associated with a retail hardware store. The modest size of the garden center (1,200 sq. ft.) will not significantly alter the character of the Central Business zoning district. The impacts of these uses on the adjacent neighborhood will not be substantively different from those from the existing shopping center's operation.
7. **The proposed use is in harmony with the general purpose and intent of the Zoning Bylaw.** The Zoning Bylaw's Table of Uses specifies a wide array of permitted business and retail uses for the Central Business district. The Bylaw authorizes outdoor display areas in the Central Business zoning district by special permit. By going through the special permit process, the location of these facilities is permanently designated and concerns for vehicle and pedestrian safety have been addressed.
8. **The proposed use is consistent with the goals of the Medway Master Plan.** The use is consistent with the Master Plan's goal of further economic development within the Town's existing commercial area. As a regional hardware store, Rocky's has wide name recognition and its services and merchandise provide a draw to customers to the Medway Place shopping plaza, thus serving to strengthen the center's viability and importance to the community.
9. **The proposed use will not be detrimental to the public good.** The Board finds that the problems associated with the proposed uses and the Applicant's poor track record during the course of the public hearing outweigh the beneficial services to be provided to the community by the proposed uses.



<b>Planning &amp; Economic Development Board Member</b>	<b>Vote</b>
Jessica Chabot	
Richard Di Iulio	
Matthew Hayes	
Andy Rodenhiser	
Robert Tucker	

**IX. APPEAL** – The Board and the Applicant have complied with all statutory requirements for the issuance of this *Decision* on the terms set forth herein. A copy of this *Decision* will be filed with the Medway Town Clerk and mailed to the Applicant/Permittee and notice will be mailed to all parties in interest as provided in G.L. c. 40A §15.

Any person aggrieved by the *Decision* of the Board may appeal to the appropriate court pursuant to Massachusetts General Laws, Chapter 40A, §17, and shall be filed within twenty days after the filing of this *Decision* in the office of the Medway Town Clerk.

###



Decision Date: \_\_\_\_\_

**AYE:**

**NAY:**

\_\_\_\_\_  
*Signature* *Printed Name*

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*Signature* *Printed Name*

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*Signature* *Printed Name*

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*Signature* *Printed Name*

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*Signature* *Printed Name*

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*Signature* *Printed Name*

**ATTEST:**

\_\_\_\_\_  
Susan E. Affleck-Childs  
*Planning & Economic Development Coordinator*

\_\_\_\_\_  
Date

**COPIES TO:** Michael Boynton, Town Manager  
Mike Fasolino, Deputy Fire Chief  
Bridget Graziano, Conservation Agent  
Donna Greenwood, Assessor  
Beth Hallal, Health Agent  
Jeff Lynch, Fire Chief  
Jack Mee, Building Commissioner and Zoning Enforcement Officer  
Pete Pelletier, DPW Deputy Director  
Joanne Russo, Treasurer/Collector  
Barbara Saint Andre, Director of Community and Economic Development  
Jeff Watson, Police Department Safety Officer  
Gareth Orsmond, Pierce and Atwood  
Joel Quick, Pierce Atwood  
Steven Bouley, Tetra Tech





**October 26, 2021**

**Medway Planning & Economic Development Board  
Meeting**

**Discussion of Town Meeting Articles**

- Revised Environmental Standards dated 10-18-21
- Revised BESS dated 10-18-21

This is not the continued public hearing which will be held on November 2. But it is an opportunity to review the changes made since the last discussion on 10-12-21.



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.



## 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 Center Frequency (Hz)	dB	1/3 Octave Band 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 7:00 a.m. – 7:00 p.m. @ Property Line	Evening 7:00 pm – 11:00 pm @ Property Line	Nighttime 11:00 p.m. – 7:00 a.m. @ Property Line
Overall Level (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 7:00 a.m. – 7:00 p.m. @ Property Line	Evening 7:00 p.m. – 11:00 p.m. @ Property Line	Nighttime 11:00 p.m. – 7:00 a.m. @ Property Line
Overall Level (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 7:00 a.m. – 7:00 p.m. @ any Residential Property Line</b>	<b>Evening 7:00 pm – 11:00 pm @ any Residential Property Line</b>	<b>Nighttime 11:00 p.m. – 7:00 a.m. @ any Residential Property Line</b>	<b>Evening &amp; Nighttime 7:00 p.m. – 7:00 a.m. @ Sensitive Receptors</b>
Maximum Overall Noise 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