

An aerial photograph of a landscape, likely in a rural or semi-rural area. A road, presumably Harvard Ayer Road, runs diagonally from the top left towards the bottom right. To the left of the road, there is a cluster of buildings, including what appears to be a large industrial or commercial structure with a white roof. The surrounding area is mostly forested, with some open fields and scattered smaller buildings. The overall tone of the image is dark and muted, with a greenish-grey color palette.

Harvard Ayer Road Vision Plan and Form-based Code

Community Workshop on Scenarios, February 13th, 2024

Agenda

- **Consultant Presentation ~ 40mins:**
 - Where are we in the process?
 - Assumptions and methodology
 - Development scenarios and feasibility takeaways
 - Town impacts overview
- **Next Steps and Zoning Framework ~ 10mins**
- **Open Discussion/Q&A/Workshop ~ 40mins:**

Housekeeping/Zoom Etiquette

- We have a lot to cover tonight – we appreciate your patience as we work through the presentation, and we kindly ask that you save your questions/comments for the designated discussion time.
- If you have any comments or need clarifications during the presentation, please feel free to type your questions in the chat box. We'll make sure to address them during the discussion.

We want to hear from you beyond this meeting!

- Presentation and recording will be available on the Town's website following this meeting. Please send any questions, comments and feedback to Frank O'Connor at FOConnor@harvard-ma.gov

Where are we in the process?

- Project update and timeline
- Phases and outcomes
- Purpose of tonight's workshop

Recap: Goal and purpose of this planning project

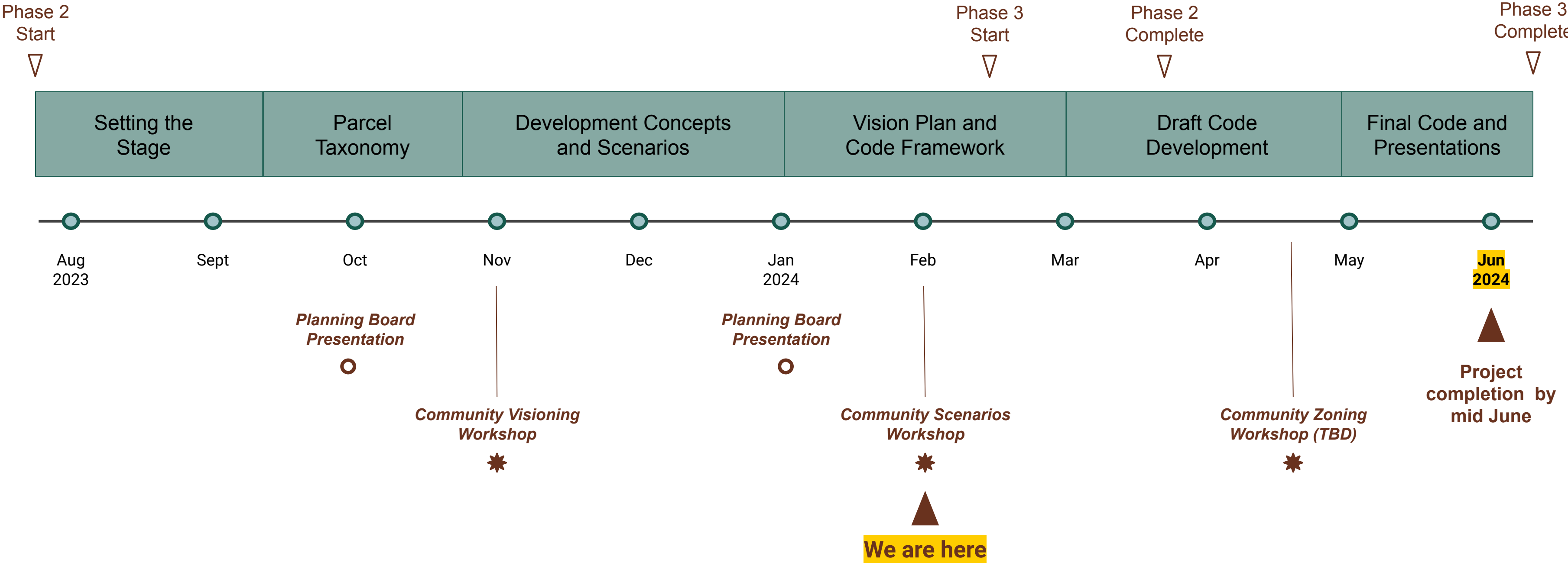
Craft a vision plan and strategic development framework for the Ayer Road Corridor/C-District area to support vibrant commercial and mixed-use development

- Informed and grounded by market analysis and community input
- Supporting amenities for the public and natural resource preservation
- Establish form-based zoning that reflects desired type and scale of development

Work with you to understand and determine:

- **What combinations of commercial and residential, and mixed-use sites provide the greatest benefits to the Town?**
- **What is the appropriate scale of development? What can be supported within the district, and how do community stakeholders feel about development at that scale?**
- **How do we make it happen? What infrastructure, resources, and tools do we need to get there?**

Timeline



Project Phases

Phase 1:
Market Study and
Fiscal Impact
Analysis

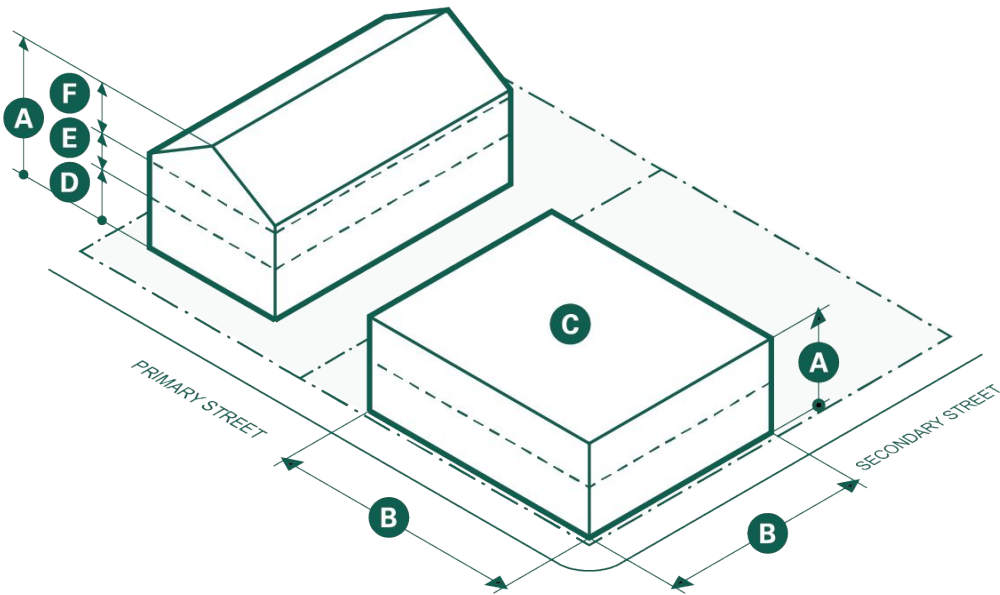
(Weitzman Associates, LLC)



Phase 2:
Corridor Vision
Plan



Phase 3:
Form-based Code



Project Phases

Phase 1: Market Study and Fiscal Impact Analysis

(Weitzman Associates, LLC)



Identified possible uses and scale of development the market can support and provides an estimate of fiscal impact/revenue corresponding to level of development.

Completed, January 2023

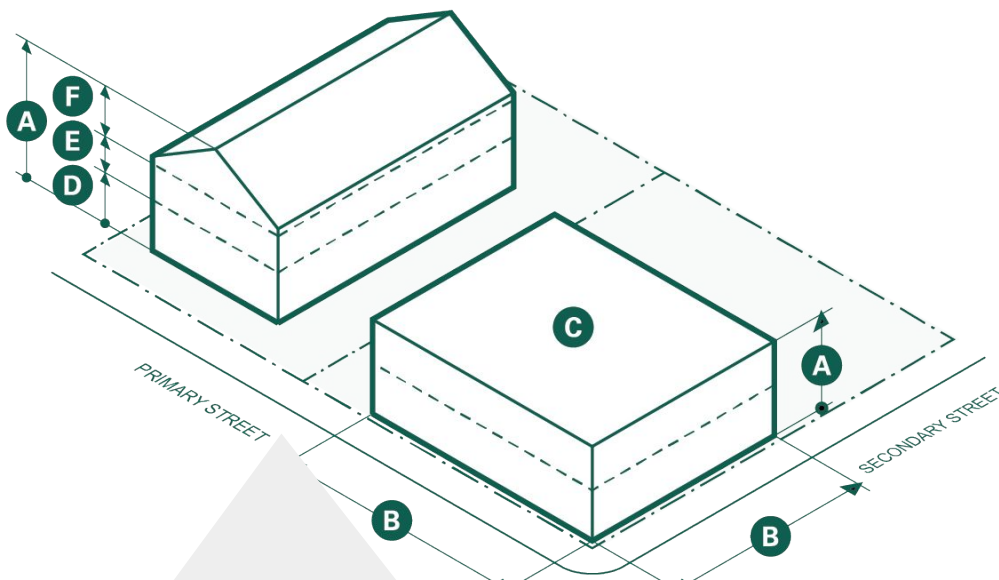
Phase 2: Corridor Vision Plan



Delves deeper to explore market viability of community-preferred uses along different site-specific scenarios to understand what's feasible relative to commercial vs. residential mix, desired character and design, and overall cost impacts

To be completed by Mar-April 2024

Phase 3: Form-based Code



Translates the community vision for preferred uses and scale of development into a set of form-based zoning tools that prescribe and foster predictable built results, high-quality public realm, and a streamlined process for development.

To be completed by June 2024

Project Phases

Phase 1: Market Study and Fiscal Impact Analysis

(Weitzman Associates, LLC)



Identified possible uses and scale of development the market can support and provides an estimate of fiscal impact/revenue corresponding to level of development.

Completed, January 2023

Recap: Phase I Market Analysis Takeaways


- Lack of access to **public water and sewer infrastructures** and their costly alternatives are the biggest impediment to commercial development in the C-District, as well as **deficient zoning**
- Recommends not maximizing the development of Harvard's retail potential, but encouraging **incremental and clustered development** as part of small-scale mixed-use commercial and residential projects.
- Potential for **community and neighborhood-oriented “necessity retail”**, as well as **visitor-oriented businesses** that would align with an inn. Office uses lack demand.
- **New commercial development would need residential subsidy**
- **Condominiums and townhomes, and new rental construction are appropriate for the C-district area.** Single family is in excess supply.
- Projected annual direct tax benefits to the town could range from \$100K - \$930K

What we heard at the Community Visioning Workshop 11/02/23

- Overall support for mixed-use development including **multifamily residential** and commercial development, leaning towards **convenience retail such as grocery stores and destination retail such as restaurants and places for families to visit.**
- Desire for **enhanced walkability in future developments that prioritize sustainability,** incorporating future infrastructure improvements
- Concerns around new **development impact on street safety** along the Ayer Road Corridor.
- Attendees of the 11/02/23 community workshop generally advocate for **extending water and sewer infrastructure to accommodate new and vibrant uses** along the corridor.


What new commercial uses would you like to see on Ayer Rd?:

(choose up to 3)




3

A. Retail shops




14

B. Restaurants / Farm-to-table




8

C. Convenience / Groceries




3

D. Boutique stores




5

E. Pharmacies / Clinics



4

F. Lodging / Inn



1

G. Vehicle repair / Landscape

2


H. Nothing

1

I. Others


Select your preferred character and scale for commercial use:

(choose up to 3)




15

A. Small ground-floor convenience retail in mixed-use developments




16

B. Clustered retail in mixed-use developments




0

C. Shopping centers



17

D. Standalone boutique retail/restaurants



2


E. Standalone chain retail/restaurants

0

F. No change in character / nothing


If there is new housing on the corridor, preference would be:

(choose up to 2)




3

A. Townhouse cluster / family-size units (3+ bedrooms)




7

B. Multi-family / compact units (1-2 bedrooms)



7

C. 2-4 unit buildings / clusters



2

D. Single-family detached homes

0

E. None of the above

utile

CODE STUDIO

LANDWISE

Nitsch Engineering

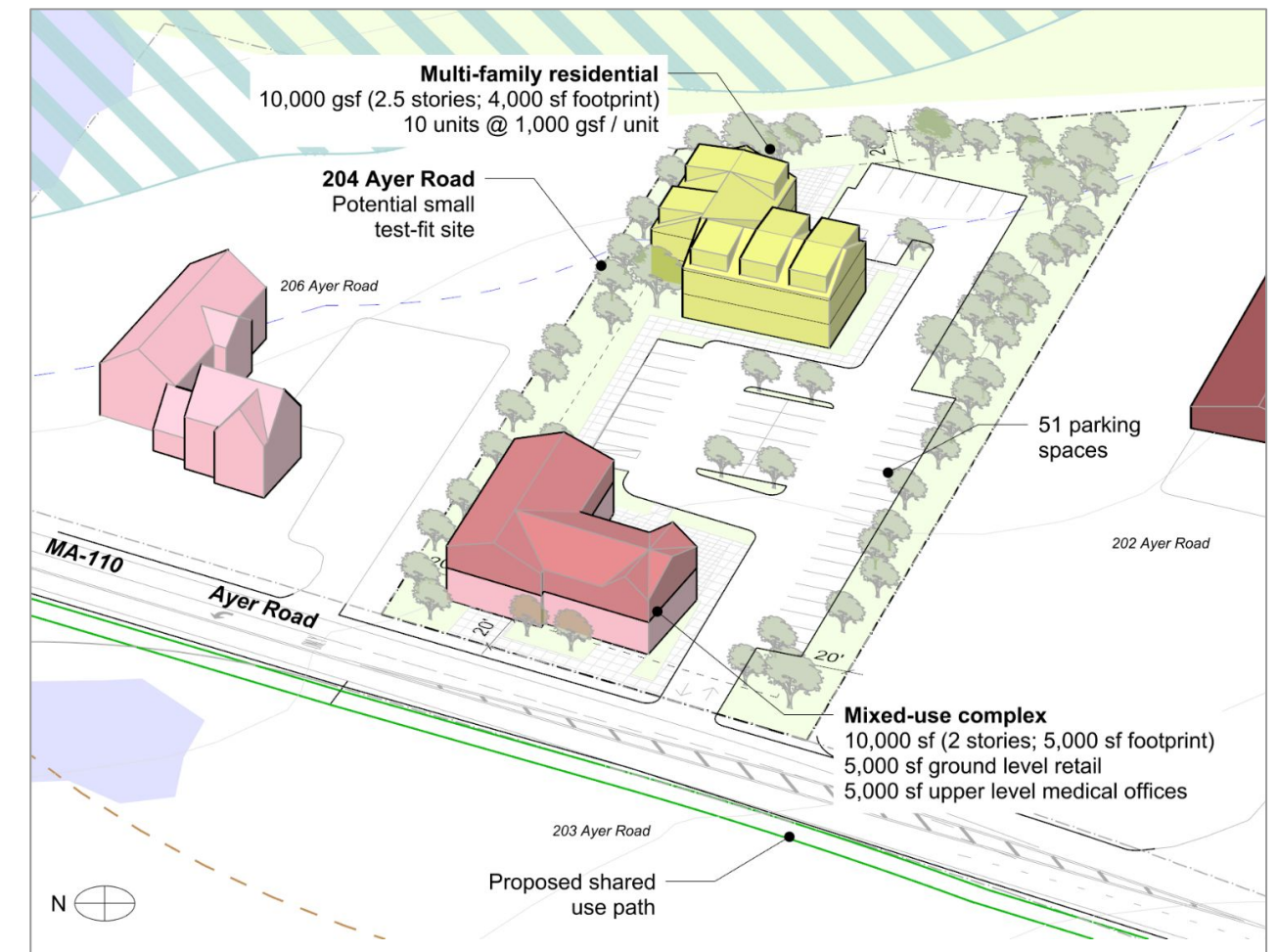
Harvard Ayer Rd

February 13, 2024 10

Presentation tonight:

Based on insights from the 2023 Weitzman market analysis report and community and stakeholder feedback to date, we have been studying and visualizing conceptual “test-fit” scenarios on three representative sites along the corridor -

- Incorporating **commercial uses preferred by the community** into models and simultaneously **testing for economic feasibility**
- Analyzing **potential costs and revenues** generated by each scenario
- Help us establish what an **ideal commercial/mixed-use development** looks like for Harvard
- Assess high-level town impacts including **fiscal impacts and traffic and transportation impacts**
- Translate spatial demands for new mixed-use development into **desired architectural expressions and character** preferred by the Harvard Community



Example test-fit visualization

What we want from tonight's discussion:

Your input and feedback on:

- **Level of Aspiration:** What densities and scales of developments are desirable and should the framework reflect, considering the long-term capacity of infrastructure?
- **Commercial and Residential Mix:** What is the right balance for enhancing the economic well-being of both the community and the town?
- **Character of Development:** How do we guide the character and aesthetics of new developments to ensure they fit into the neighborhood and contribute to a vibrant commercial district?
- **Broader Corridor/C-District Vision:** What additional elements do you envision being addressed and incorporated into the scenarios, vision plan and subsequent zoning framework? e.g. open space requirements, parking arrangement

Scenario Assumptions and Methodology

- Assumptions for study
- Three representative sites
- Estimating costs and revenues

Reminder: What is scenario planning?

WHY?

Envision different ways the Town might approach and guide decisions for mixed-use development on the Ayer Road Corridor and inform future form-based zoning tools



SCENARIOS DO

- Assess outcome of current regulations
- Propose alternatives based on our goals
- Assess the difference in outcomes and scale of change
- Guide decisions about future land use, zoning, and regulatory changes

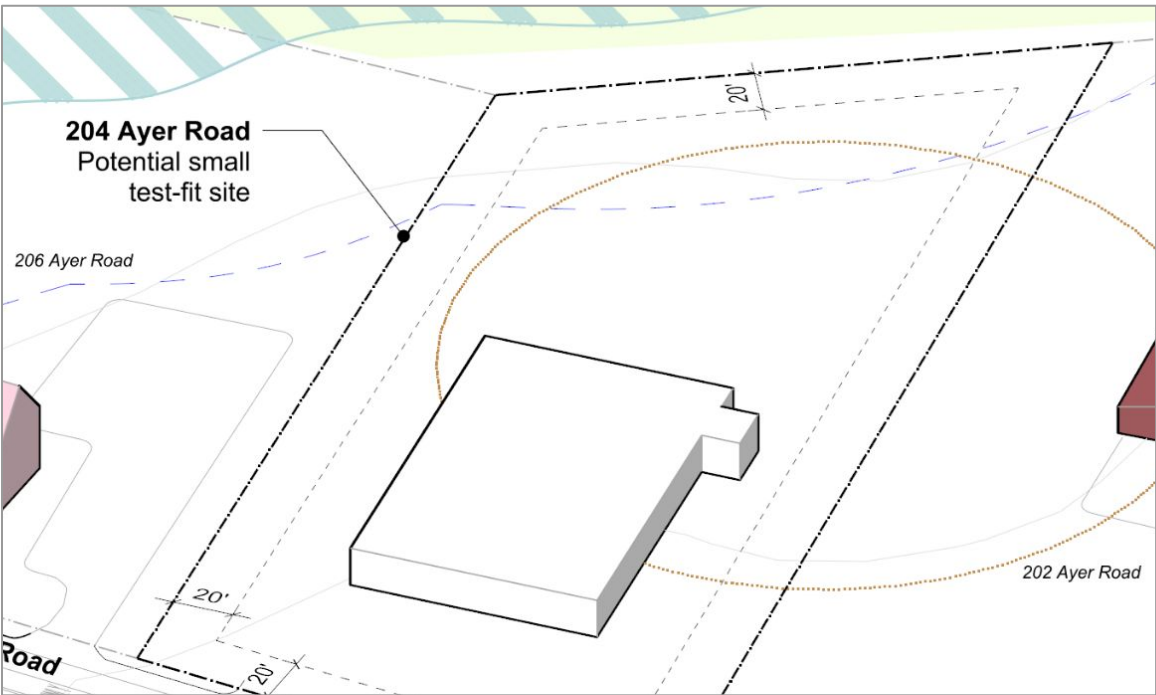
SCENARIOS DO NOT

- Serve as final recommendations or policy proposals
- Address the effects of all regulations
- Predict the future of what will occur

Scenario development assumptions

Scenarios we tested explore development thresholds made possible by various increments of infrastructure improvements and their impact on the scale of potential development

Scenario 1:
No water or sewer extension



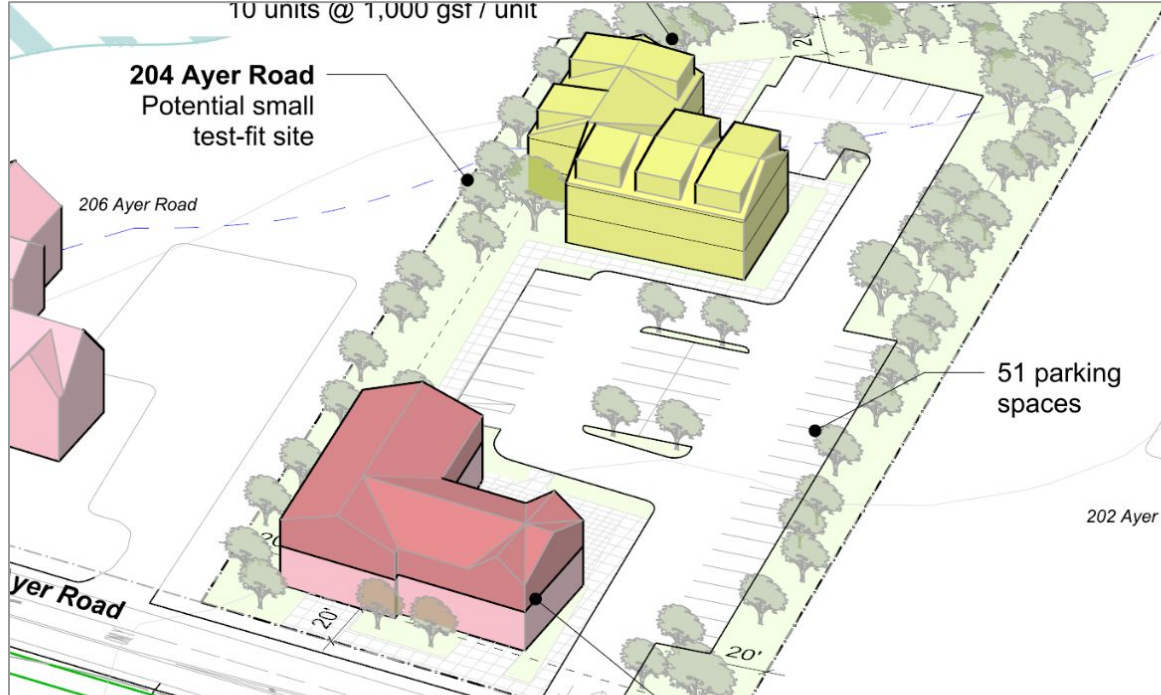
Assumes that **neither water nor sewer utilities will be extended** through the corridor and each parcel will remain reliant on wells and septic systems.

Scenario 2:
Water main extension



Assumes that a **water main will be extended** down Ayer Road and a sewer main would not be extended. This would remove the reliance on wells, but the septic systems would remain.

Scenario 3:
Water and sewer main extension



Assumes that **both a sewer main and water main will be extended** down Ayer Road, relieving the reliance on septic and wells, while simultaneously reducing the constraints on commercial development.

Three study sites: small, medium, large



Ayer Road TIP/SUP



Program & dimensional assumptions

Program / Site Assumptions

- Residential unit size: 1,000 gsf / unit
- Residential parking: 1.6 spaces per unit
- Commercial parking: 4 spaces / 1,000 gsf retail
3 spaces / 1,000 gsf office

Preliminary Dimensional Assumptions

- Max height: 2.5 stories / 35 ft
- Min open space (excl.parking): 50%
- Setbacks:
 - Front & rear: 20'
 - Sides: 20'

These parameters will evolve as we iteratively generate scenarios and develop draft zoning standards

Other assumptions

- **Septic system constraints:**

- Leaching field sizing as recommended by Nitsch Engineering
- No septic systems within 100' of Water Protection Overlay District

- **Water-related constraints:**

- No non-water-supply-related uses on DEP Wellhead Protection Areas
- 100' setback from wetlands

- **Site configuration assumptions:**

- Surface parking
- Horizontal mixed-use more likely than vertical

Estimating costs and revenue

- Model designed to **estimate the potential cost of, and revenue generated through the development of each scenario.**
- Looks at the differential between anticipated revenues and expenses and estimates the **amount that a developer could afford to pay for the land.**
- Important to recognize that **key inputs such as construction costs and rental rates have been modeled on local comparables** and are specific to the suburban Boston market.
- Land market in Harvard is **highly variable and projects could be feasible on some sites but not others** depending on the value expectation of the land owner.

Project Revenues – Project
Costs (excluding land)

=Land Residual Value

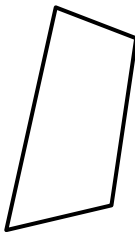
Development Scenarios and Feasibility

- Feasibility takeaways by site
- Case study: large site
- Building character, scale, and public realm

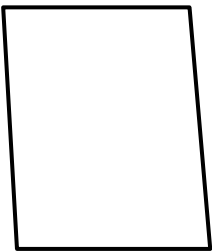
Three representative sites



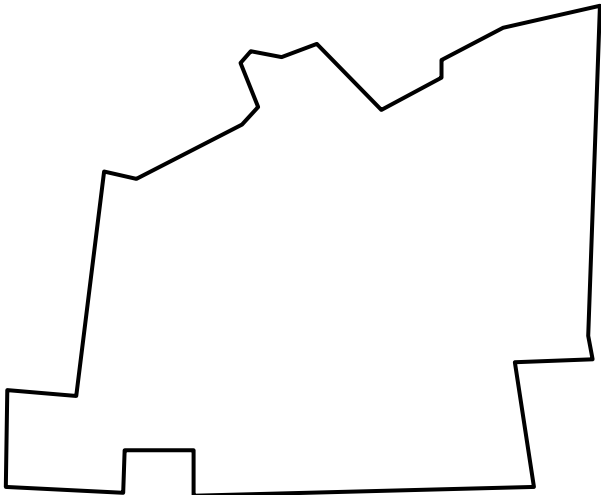
Feasibility Takeaways



204 Ayer Road



325 Ayer Road



285 Ayer Road

	Site 1 - 1.6 acres			Site 2 - 4.8 acres			Site 3 - 9.6 acres		
	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3
Total SF		9,000	20,000	23,000	52,000	79,000	33,000	115,000	151,000
Residential Units		6	10	15	36	60	18	110	96
Commercial SF		3,000	10,000	8,000	16,000	19,000	15,000	5,000	55,000
Land Value/Acre	N/A	\$256,000	\$422,000	\$215,000	\$365,000	\$585,000	\$166,000	\$428,000	\$434,000
Total Value		\$399,000	\$659,000	\$1,031,000	\$1,746,000	\$2,575,000	\$1,596,000	\$4,121,000	\$4,613,000
Feasible?		No	Borderline	No	No	Borderline	No	Feasible	Feasible
Notes	Site recently listed for \$1,115,000			High Embedded Value			Low Embedded Value		

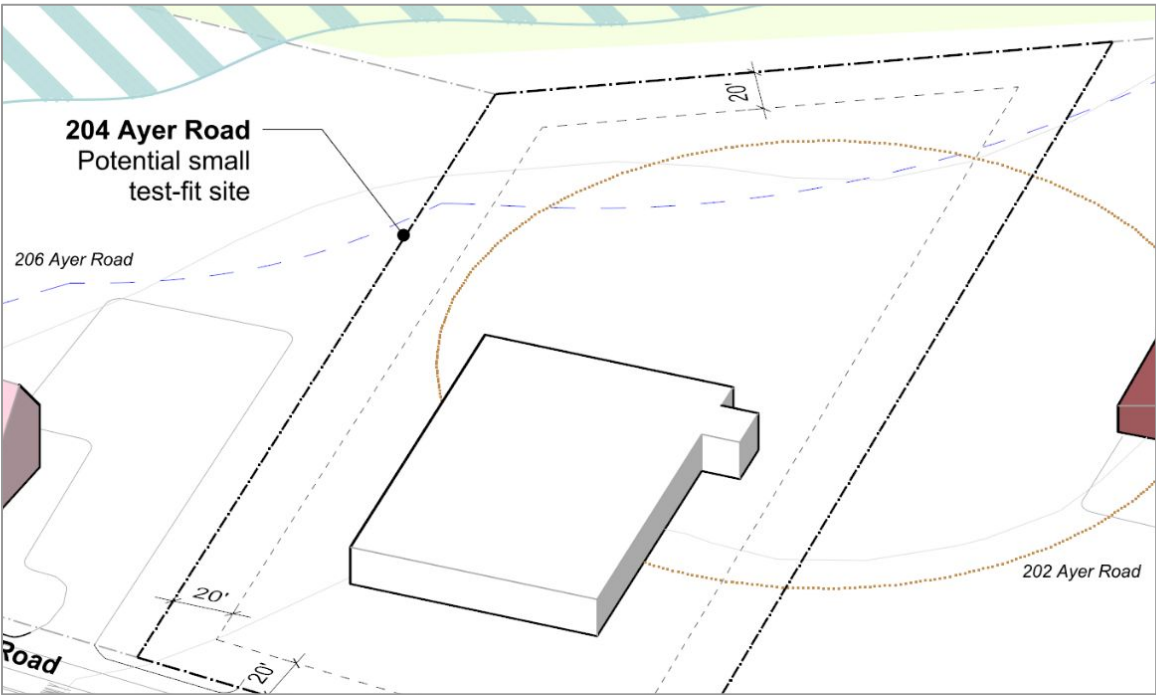
Overall Takeaways

- **In general, large sites (larger than 10 acres) will be most attractive to developers** so they can achieve economies of scale with a larger development (180+ units) and solve the septic challenge on site.
- More meaningful development viable with **infrastructure expansion**.
- **The residential values are likely to support surface parking only**. Vertically integrated mixed-use buildings with podium parking are not currently feasible.
- **Commercial developments carry significantly more risk than residential**. We estimate developers will want to cap commercial uses at around 10% or less of the total development square footage.
- **** Note that the medium site in this study has a high embedded value** given that the 75,000 square foot commercial building on site (The Appleworks) is viable and mostly occupied.

Summary: Small Site - 204 Ayer Road

Scenario 1

No Water & Sewer Utilities



Commercial use **not viable due to physical site constraints** imposed by DEP Zone I and septic system sizing assumptions.

Scenario 2

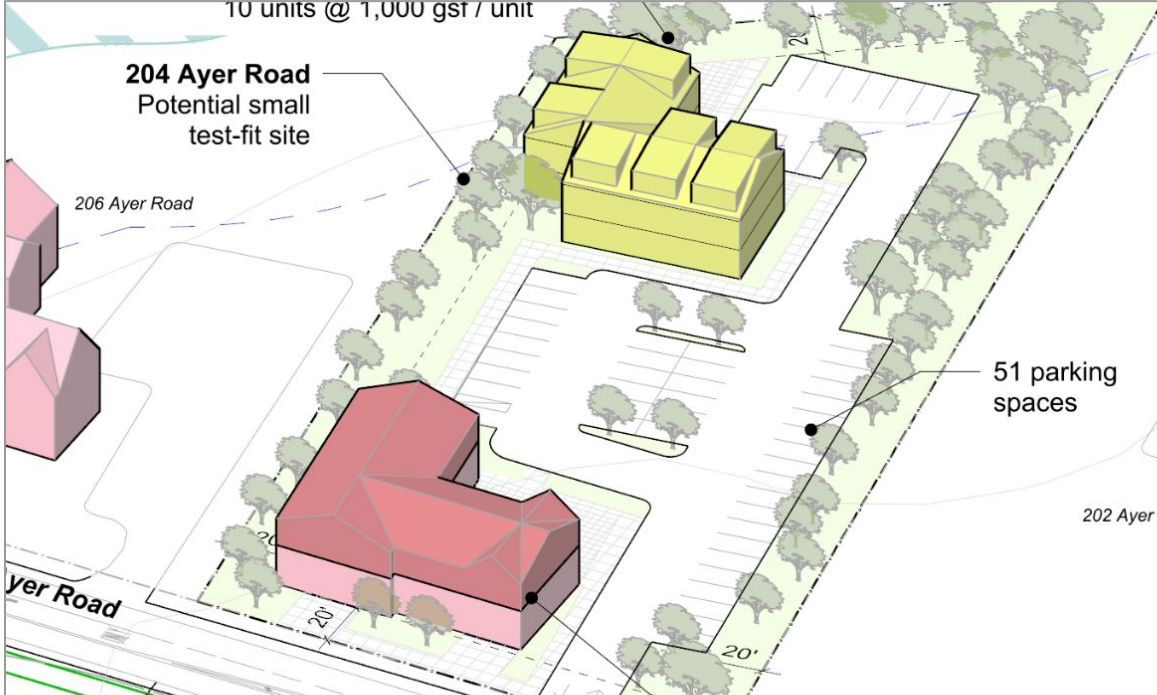
Water from Harvard Main + On-site waste disposal



Analysis reveals that this scenario is **not financially feasible** as it results in **low land value** at \$400,000 or \$250,000 per acre

Scenario 3

Water and Sewer from Town of Harvard



Analysis reveals that this scenario is **borderline financially feasible** but results in **medium land value** at \$670,000 or \$420,000 per acre

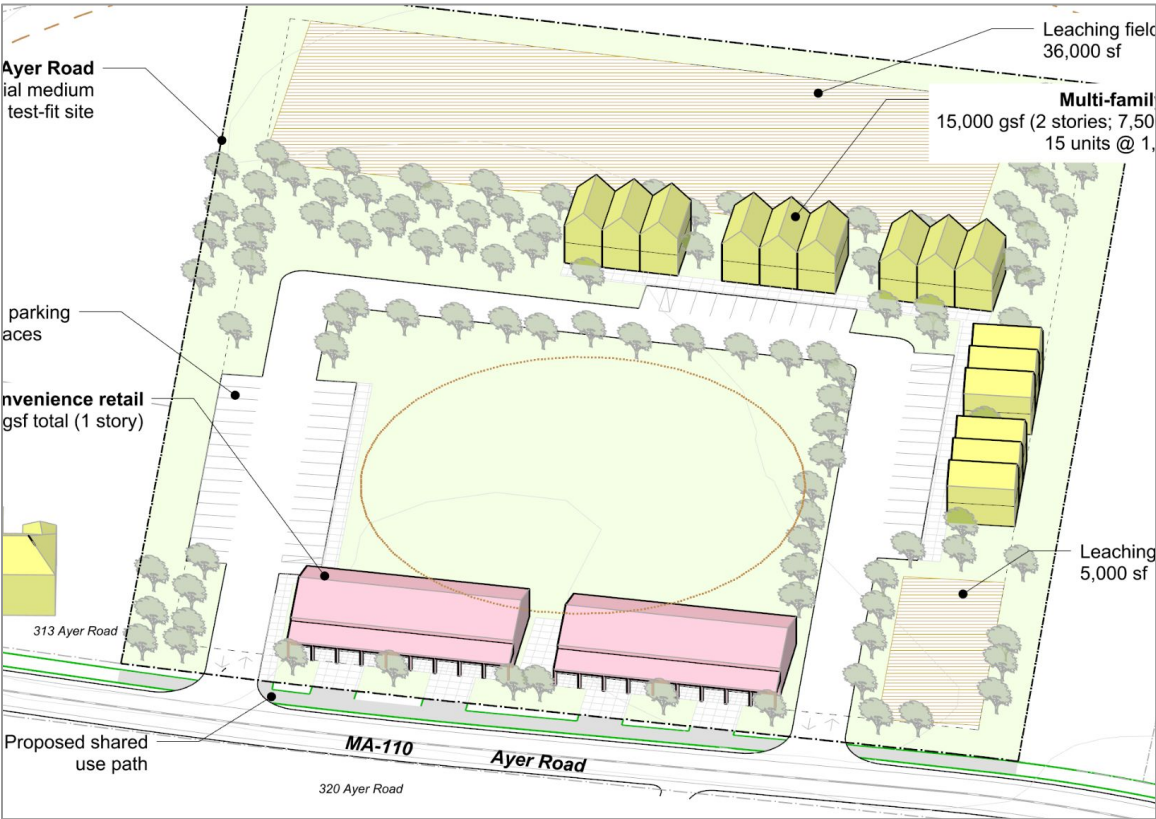
Key takeaways

- Infrastructural constraints have an outsized impact on the development potential of smaller parcels.
- Reliance on public wells and on-site septic systems determine how and whether the mix of uses fit within the parcel.

Summary: Medium Site - 325 Ayer Road

Scenario 1

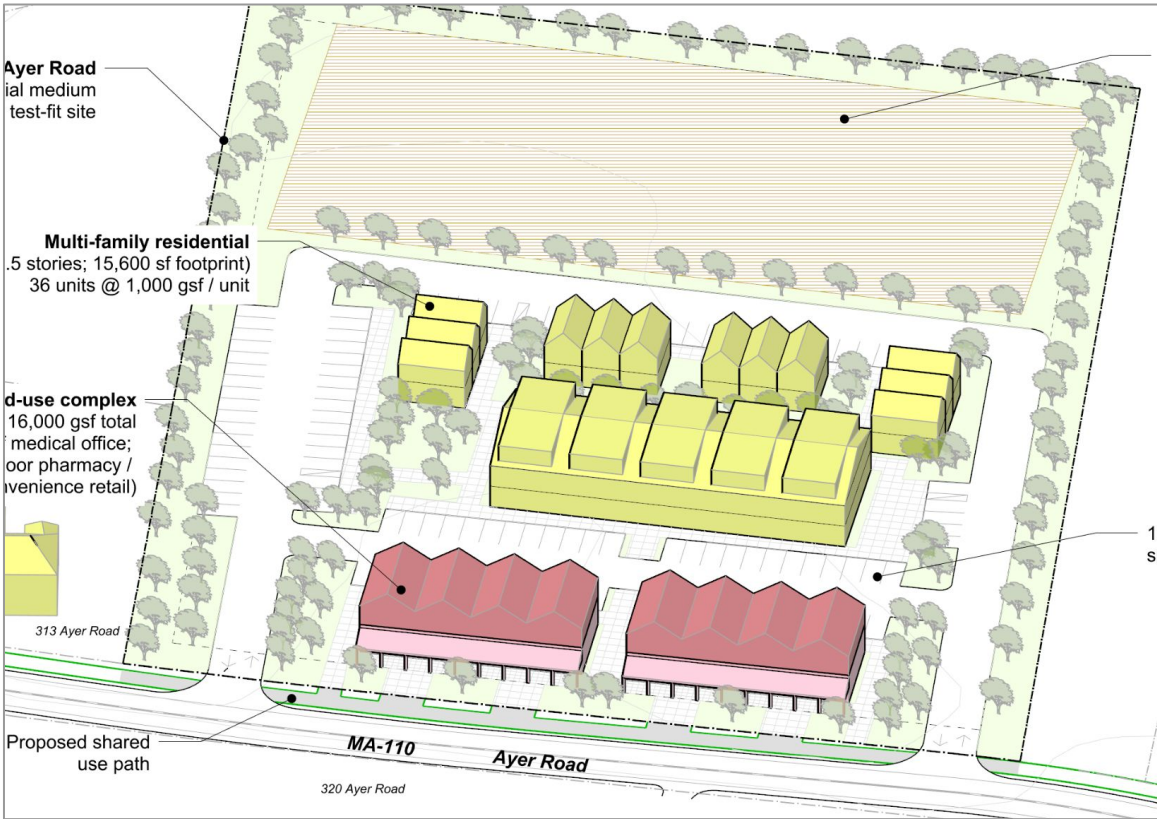
No Water & Sewer Utilities



Scenario is **not financially feasible** as it results in **low land value** at \$1,030,000 or \$215,000 per acre

Scenario 2

Water from Harvard Main + On-site waste disposal



Scenario is **not financially feasible** as it results in **low land value** at \$1,750,000 or \$365,000 per acre

Scenario 3

Water and Sewer from Town of Harvard

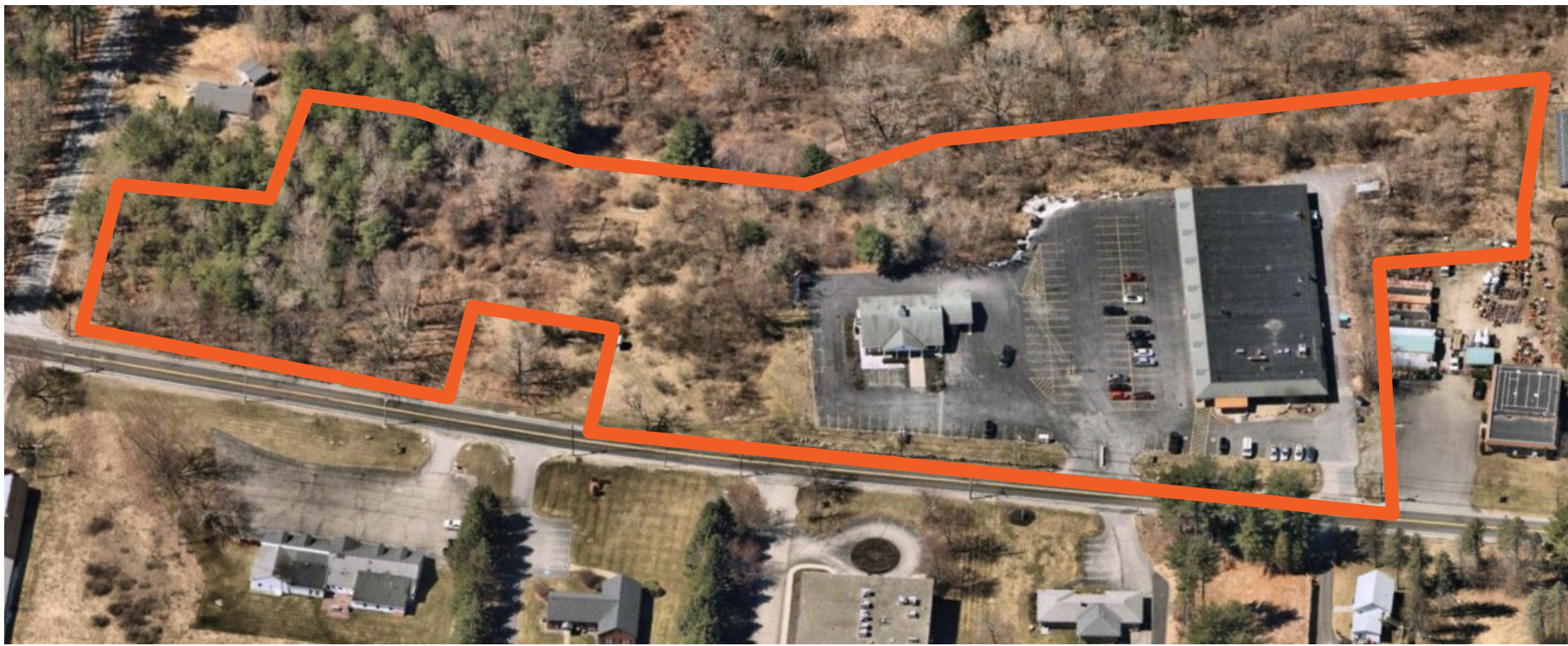
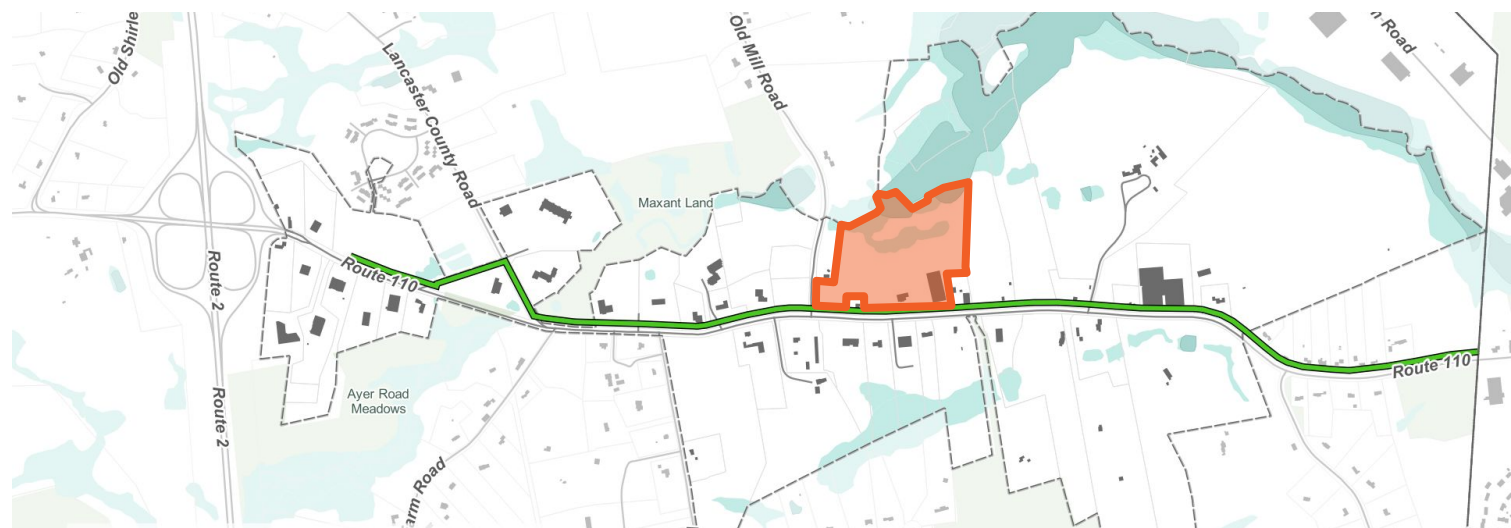


Scenario is **borderline financially feasible** as it results in **medium value** at \$2,580,000 or \$585,000 per acre

Key takeaways

- Degree of Infrastructural upgrades determine densities and site configurations within a medium-sized parcel.
- Removed reliance on on-site septic systems increases developable parcel area and program flexibility.

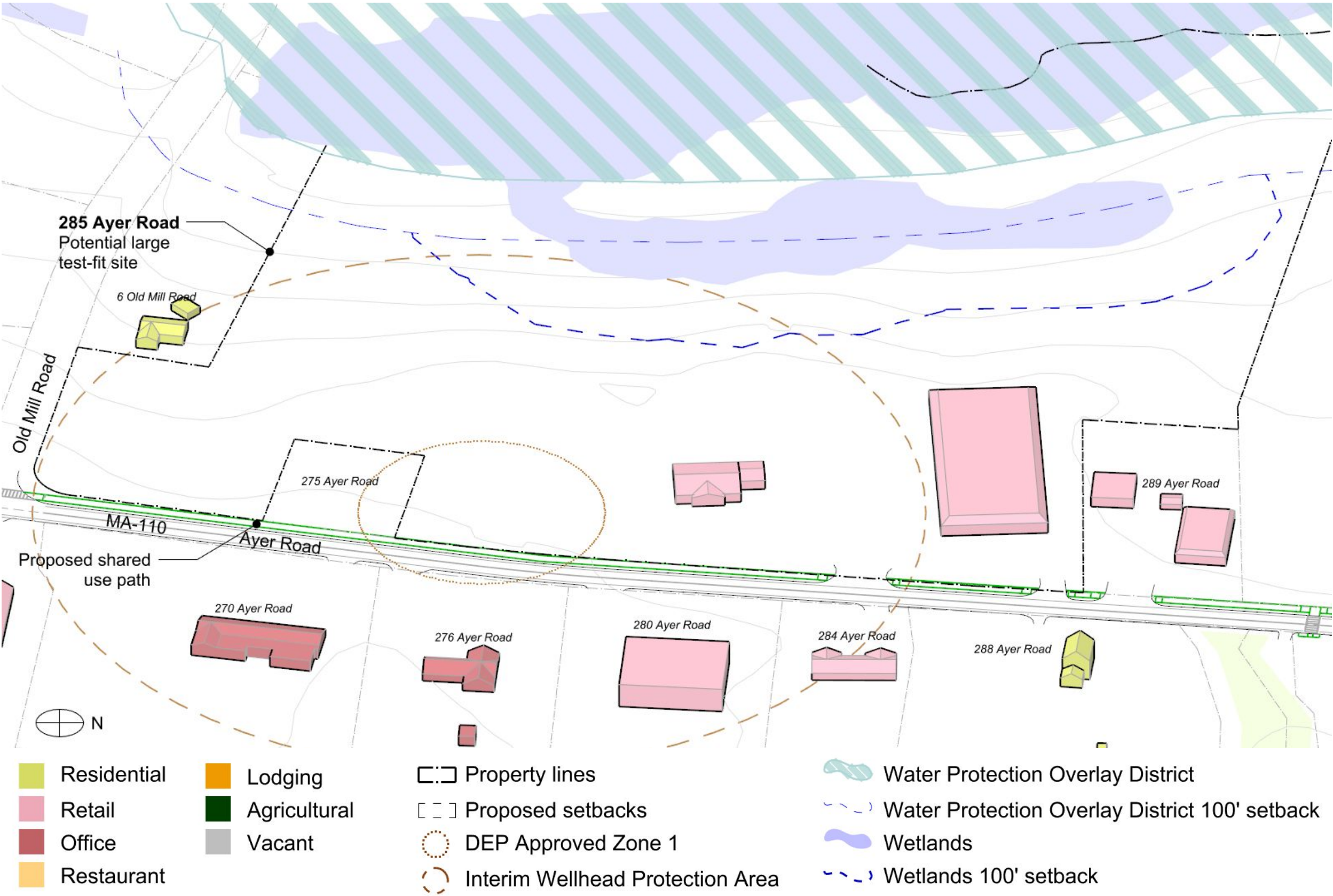
Case study - Large test-fit site: 285 Ayer Road



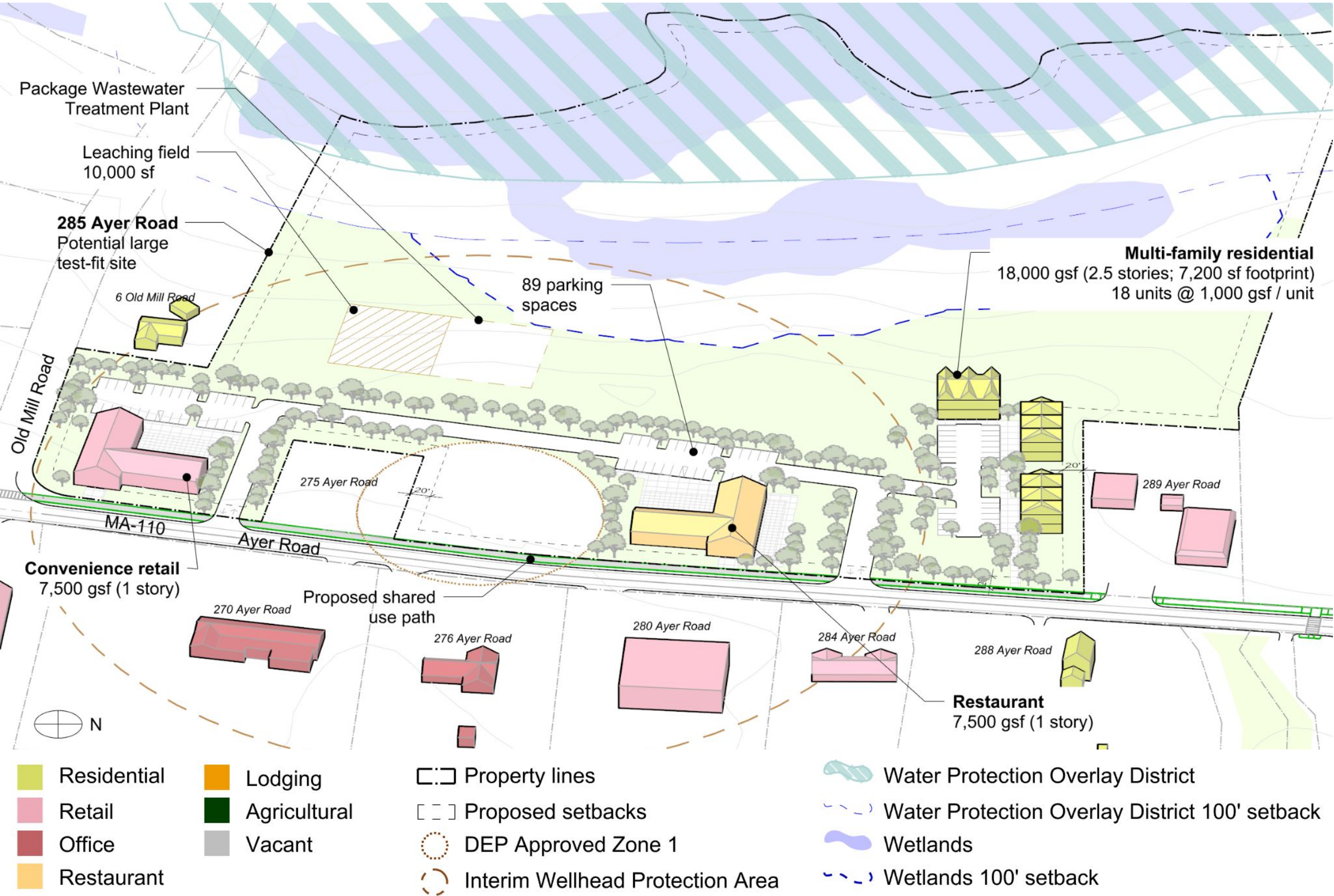
285 Ayer Road
Parcel acreage: 9.62 ac
Existing uses: F&B / retail / recreation / services

Large test-fit site: 285 Ayer Road

Parcel information



Scenario 1: No Water & Sewer Utilities

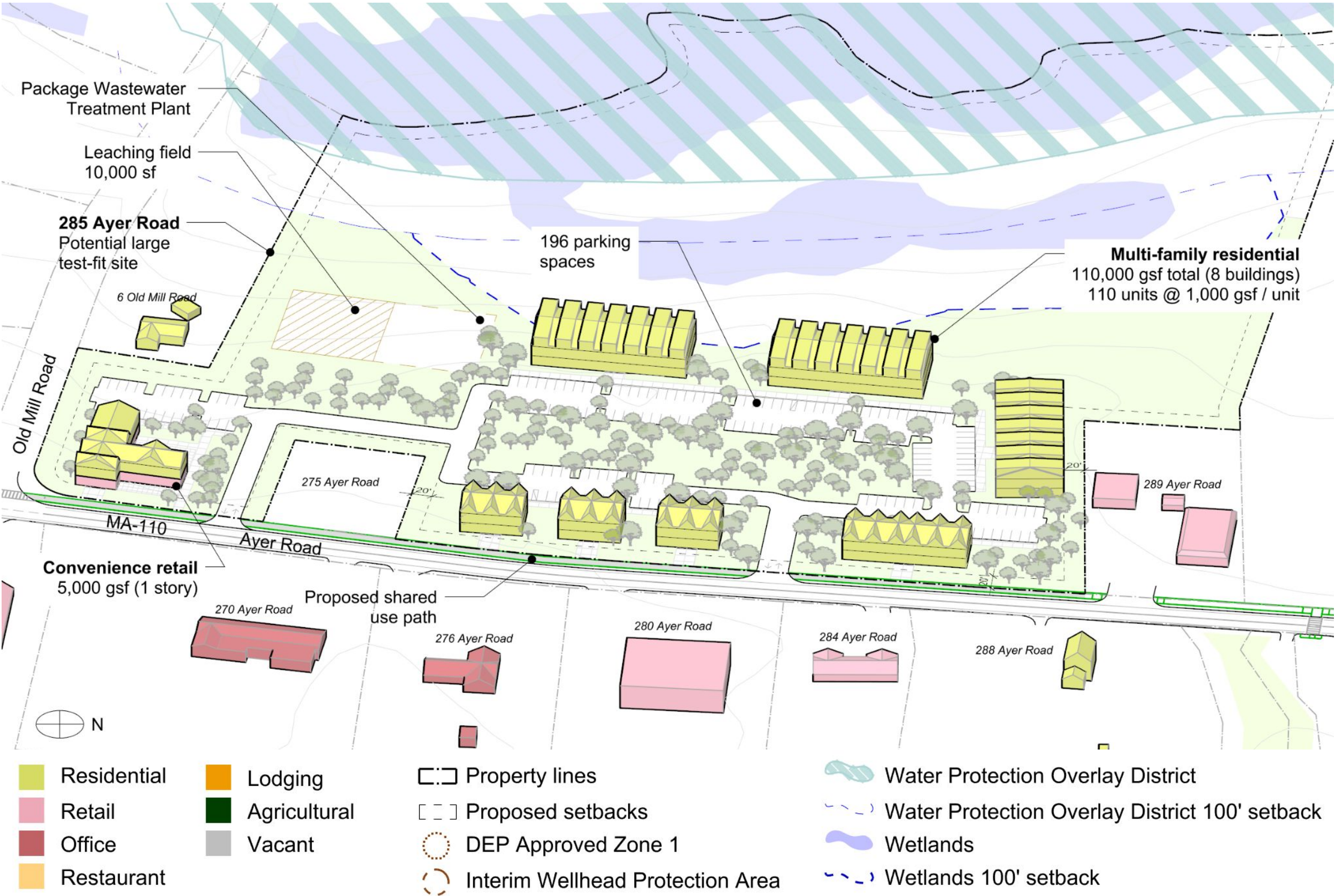


- DEP Zone I area and septic system sizing limit frontage and use of full site
- Reliance on public wells limits density
- Convenience retail and restaurant as front-lot developments; multi-family residential and parking in the back
- Wastewater treatment plant required

Program	Area	%	Units/Acre
Residential	18,000 sf	55%	1.9
Restaurant	7,500 sf	23%	N/A
Retail	7,500 sf	23%	N/A
Total	33,000 sf		

Lot coverage	
Built structures only	5%
Total impervious area	22%

Scenario 2: Water from Harvard Main + On-site waste disposal

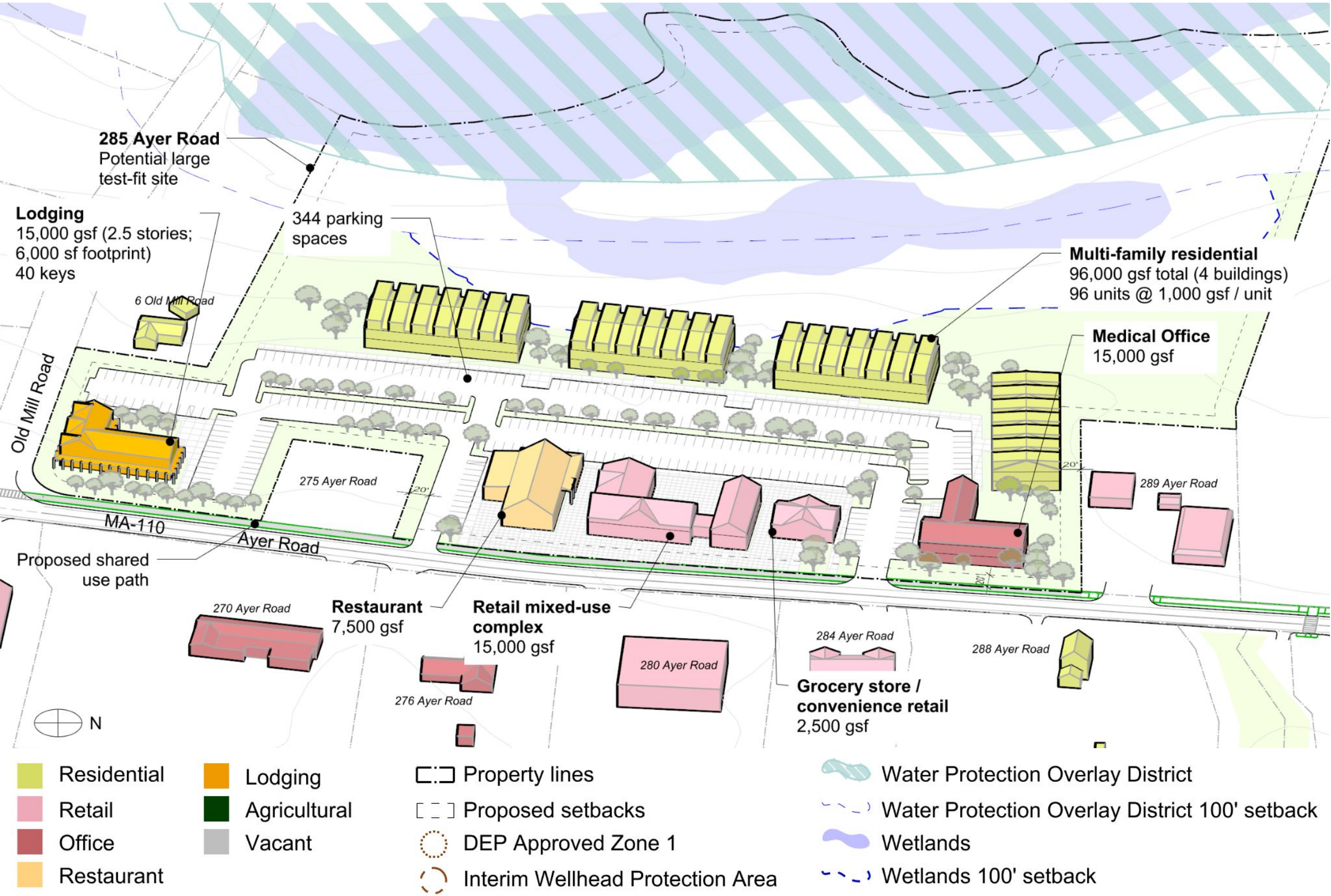


- This scenario explores minimum retail as a test
- Ground floor retail as part of vertically integrated development near parking entry
- Townhomes lining Ayer Road; apartments and parking in the back
- Wastewater treatment plant required

Program	Area	%	Units/Acre
Residential	110,000 sf	96%	11.4
Retail	5,000 sf	4%	N/A
Total	115,000 sf		

Lot coverage	
Built structures only	11%
Total impervious area	34%

Scenario 3: Water and Sewer from Town of Harvard



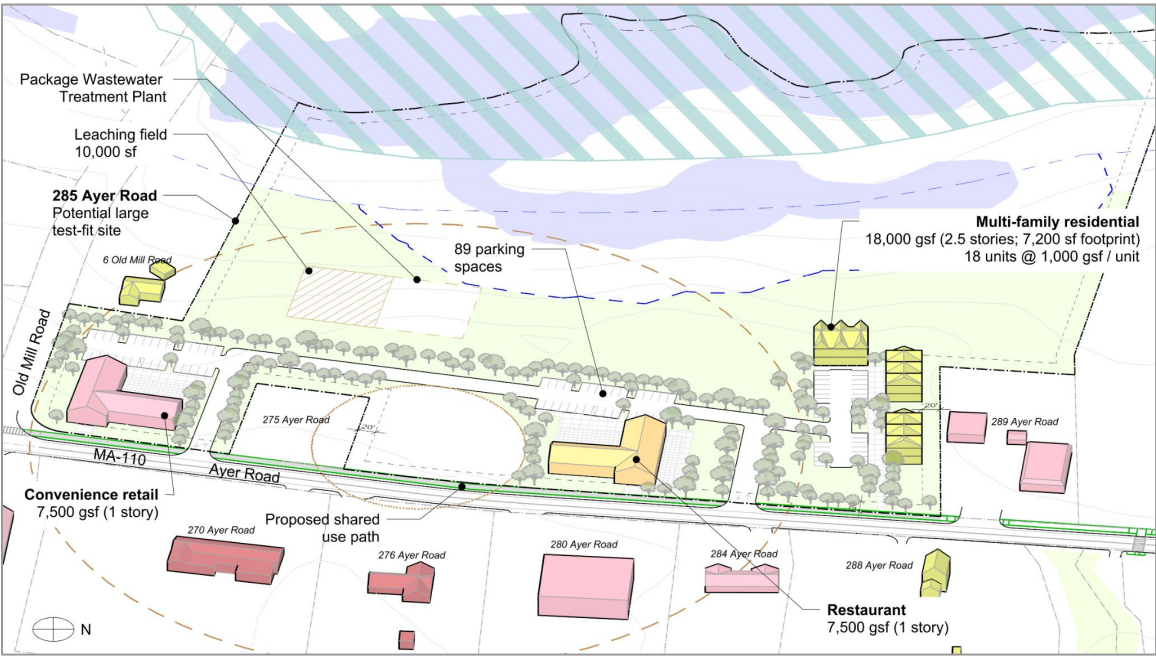
- Use of full site enabled by removed restrictions on water and sewer
- Opportunity to establish site as destination with a mix of commercial uses lining Ayer Road, including restaurants, retail complex, grocery stores, offices, and a small inn
- Front-lot building setbacks and interconnected building wings shaping pedestrian public realm

Program	Area	%	Units/Acre
Residential	96,000 sf	64%	10.0
Restaurant	7,500 sf	5%	N/A
Retail	17,500 sf	12%	N/A
Office	15,000 sf	10%	N/A
Lodging	15,000 sf	10%	N/A
Total	151,000 sf		

Lot coverage	
Built structures only	17%
Total impervious area	55%

Summary: Large Site - 285 Ayer Road

Scenario 1 No Water & Sewer Utilities



Scenario is **not financially feasible** as it results in **low land value** at \$1,600,000 or \$165,000 per acre

Scenario 2 Water from Harvard Main + On-site waste disposal



Scenario is **financially feasible** as it results in **medium value** at \$4,150,000 or \$428,000 per acre

Scenario 3 Water and Sewer from Town of Harvard



Scenario is **financially feasible** as it results in **medium value** at \$4,600,000 or \$435,000 per acre

Precedent

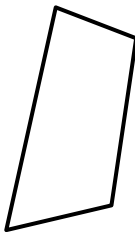


- VillageWorks, West Acton, MA**
- Mixed-use Retail / Restaurant / Brewery / Office / Event Space (35,000 sf)
 - *Precedent for character / scale*

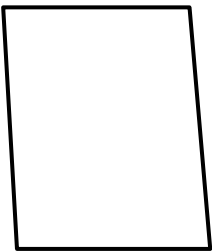


- Windrose Place Plan, Lenox, MA**
- Commercial Mixed-use (5,760 sf)
 - Residential (26 units, 53 parking spaces)
 - *Precedent for character / combination of uses / scale*

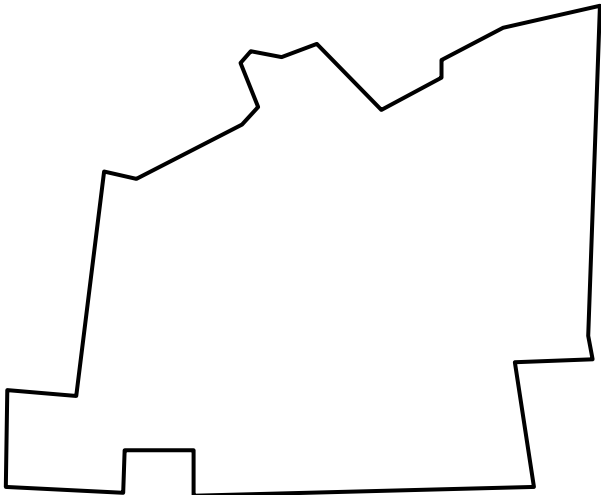
Feasibility Takeaways



204 Ayer Road



325 Ayer Road



285 Ayer Road

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Understanding Town Impacts

- Fiscal Impacts
- Traffic and Transportation
- Summary Takeaways

Fiscal Impact Model

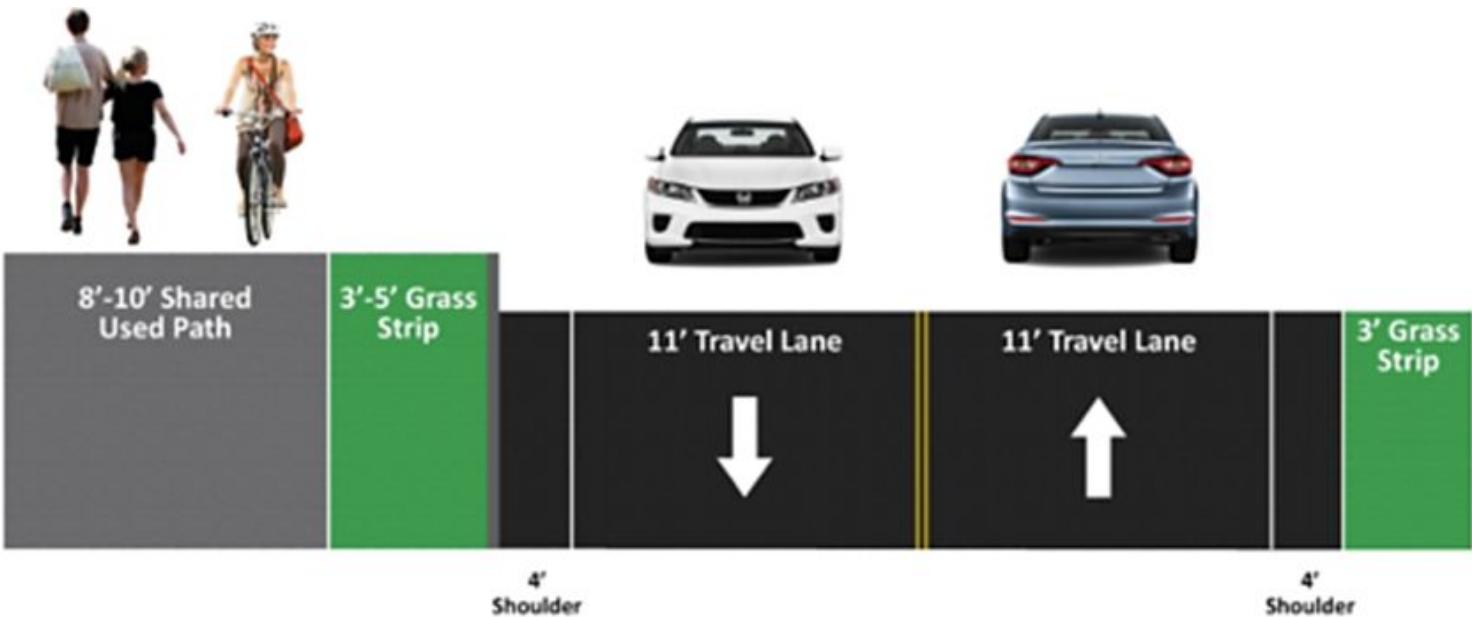
- High-level fiscal impact model that estimates the tax impact to the Town of Harvard based on the development scenarios created by Utile.
- The model includes a 20-year revenue model estimating the ***tax revenue generated by the projects*** as well as the ***expected costs*** for on-site school age children and servicing of on-site residents and employees.
- Both Scenario 2 and Scenario 3 for the large site are ***fiscally positive*** with Scenario 3 generating a slightly larger net benefit.
- The ***difference between commercial uses and residential uses is minimal*** given that the property tax rates are not split and the relatively high values of the residential components.

Traffic and transportation impacts

- Ayer Road TIP project is currently in design and anticipated to be advertised for construction in 2025 for construction in 2026-2027

For additional Information: [Harvard - Resurfacing and box widening on Ayer Road | Mass.gov](#)

- Scenarios generally represent a net reduction or near net neutral trip generation compared with existing conditions, with a few exceptions



	Existing Conditions	Test-Fit Scenario	Estimated Trip Generation	Percent Difference
Small test-fit site: 204 Ayer Road	0	Scenario 1	N/A	N/A
		Scenario 2	470	N/A
		Scenario 3	652	N/A
Medium test-fit site: 325 Ayer Road	1943	Scenario 1	738	-62%
		Scenario 2	1161	-40%
		Scenario 3	1618	-17%
Large test-fit site: 285 Ayer Road	1439	Scenario 1	1541	+7%
		Scenario 2	1221	-15%
		Scenario 3	3006	+109%

High-level traffic impacts from test-fit scenarios were estimated by Nitsch Engineering using the 11th Edition Institute of Transportation Engineers (ITE) Trip Generation Manual Web-Based Tool. These estimates are based on provided scenarios and the sizes of each respective use type and should be used as approximate values only.

Transportation Improvement Project/Shared Use Path

Pedestrian Crossings

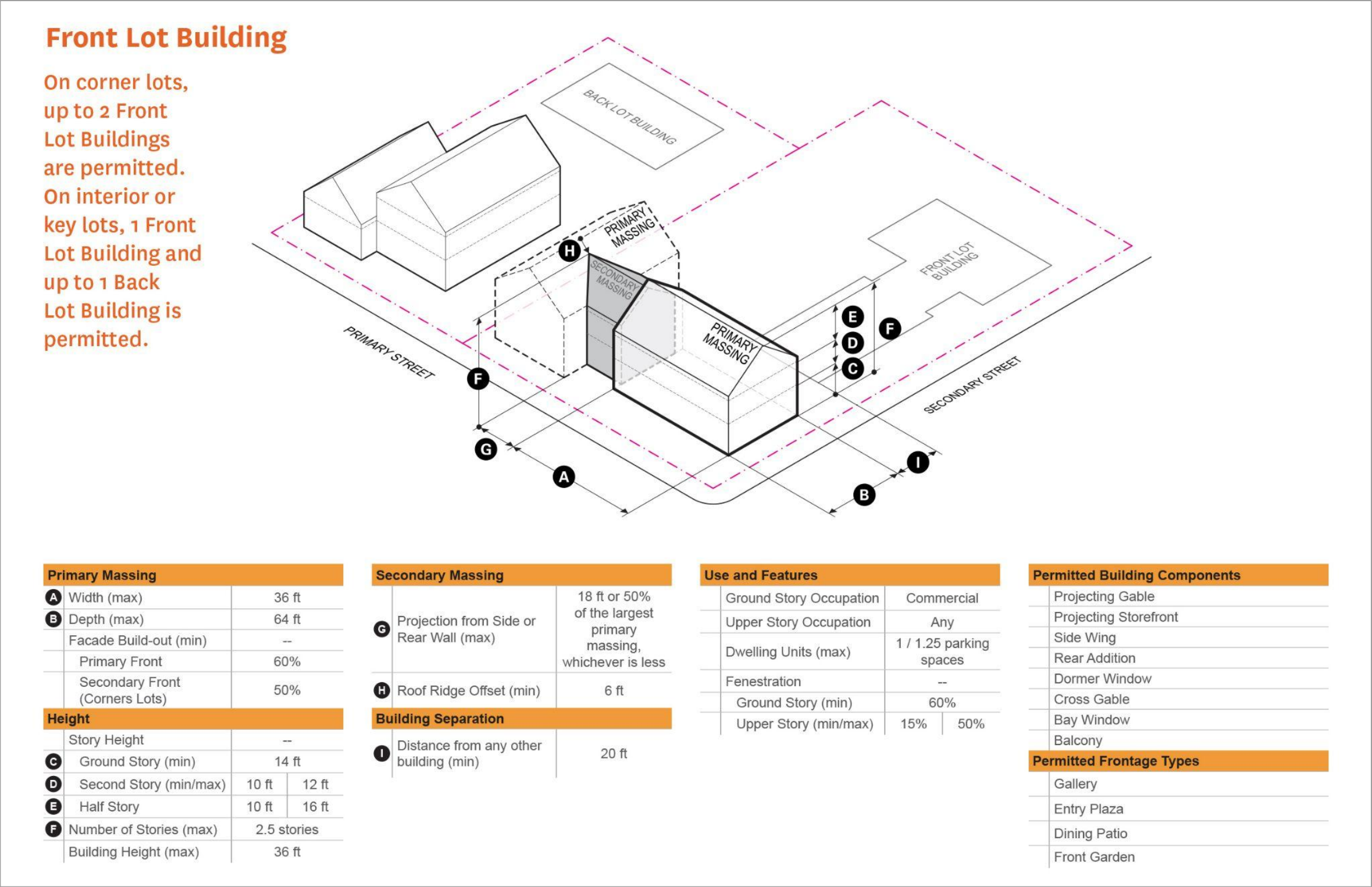


Ayer Road TIP/SUP

Next Steps and Zoning Framework

Next Steps

- Refine scenarios based off input today
- Stitch together the broader vision and district strategy, outline design guidelines
- Phase III to craft zoning to enable desired outcomes
- Summarize important variables - appropriate mix, spatial relationship between commercial vs residential, treatment of parking, open space requirements, architectural character



Example Form-based code, Littleton, MA

Building character, scale, and public realm



Building character, scale, and public realm



Zoning Considerations and Framework

Approach:

- Consideration of a variety of regulatory elements in order to establish **context-sensitive standards**. These elements may vary across mapped subdistricts, or may vary in response to specific conditions of a site or project.
- The **length of lot frontage along a public street may trigger different requirements** for building placement and massing, parking and access location, and the public realm on narrow, deep parcels vs. broader, shallower parcels.
- Potential thresholds for context-sensitive standards may include **lot frontage, lot area, the ratio of frontage to area, land use** (whether a site is predominantly commercial or residential), and specific location along the corridor.
- New form-based code will be **highly-illustrated** and rely on visual and graphic standards in addition to text.

Building Form Standards

Regulate physical characteristics such as building height and mass, density, the size of blank walls, transparency, roof pitch, the activation of building frontages, and other elements as needed

setback standards may vary for:

1. buildings that front Ayer Road,
2. interior-facing buildings that front along private drives or parking lots
3. buildings that front open space or trails

Site Development Standards

Site standards such as landscaping, stormwater, vehicle and pedestrian access, access across neighboring sites, parking, utilities, and sign controls

Architectural Style/Design Guidelines

Ensure new development meets the desired “look and feel” of the corridor

Use Provisions

Strategies to accommodate mixed-use development

Public Realm Standards

Key design attributes for safe, multi-modal streets

Development Approval Process

Development review and approval process, including how nonconformities are dealt with under the new form-based code

Takeaways summarized

- Larger sites will be most attractive to developers
- Infrastructural expansion unlocks more transformative development potential
- Commercial developments carry significantly more risk than residential. A high residential to commercial ratio is more likely than the opposite
- Residential values are likely to support surface parking only, and vertically integrated mixed-use buildings are not currently feasible
- More retail is possible, and the Town can maintain and promote the C-district as mainly commercial: the market can change or the Town might find the right tenant.
 - However, it might take time to find developers who are willing to take on a higher risk
- Use the Vision Plan process to inform zoning and other regulatory tools to ensure desired development outcomes

Tonight's discussion:

- **Level of aspiration:** Density and long-term availability of infrastructure
- **Commercial and residential mix:** What is the right balance?
- **Character of Development:** How to ensure new developments fit into the neighborhood and contribute to a vibrant commercial district
- **Broader C-District vision:** What else would you like to see included in the Vision Plan and Zoning Framework?





Thank you!