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January 26, 2022

Ms. Carolyn Britt, Chair  
Ipswich Planning Board  
Town Hall  
Ipswich, MA 01938

Dear Ms. Britt:

I am writing at the request of the Friends of Waldingfield to provide my professional and expert opinion regarding the adverse impacts from traffic and on neighborhood character that would result from granting the special permit for the Ora, Inc. headquarters and conference center proposed for 55 Waldingfield Road.

For the reasons outlined below, Ora's proposal is, in my professional judgment and experience, an inappropriate use of this property that would significantly degrade traffic safety on Waldingfield Road, and do consequential damage to the surrounding historic and scenic landscape. The proposal simply does not meet the standards for approval established in the Town's Great Estates Bylaw or the special permit standards established in the Town's Protective Zoning Bylaw.

***Qualifications***

From 1976 to 1984 I served as Deputy Commissioner of the Massachusetts Department of Environmental Management (DEM), where I created and directed the Massachusetts Landscape Inventory, a statewide inventory of the Commonwealth's most important scenic and historic landscapes. After reviewing several thousand landscapes, the Inventory classified the district around Waldingfield Road as a "Distinctive Landscape," thereby designating it within the top tier of the Bay State's most important landscapes. Under my direction, the Massachusetts Landscape Inventory informed the state's land conservation programs, including creation of Maudslay State Park in Newburyport, Halibut Point State Park in Rockport and the Bay Circuit Greenway / Trail running through Ipswich. I also have extensive personal knowledge of Waldingfield Road and its environs in specific, extending back over forty years from when I served on the Trustees of Reservations' Northeast Advisory Committee.

From 1985 to 2019, I was a professor of City and Regional Planning at UMass Amherst, Harvard University, and the University of Pennsylvania, with particular expertise in open space protection in rural communities. At UMass Amherst, I founded and led the UMass Center for Rural Massachusetts. In this role I worked with small towns across the Commonwealth to develop and implement planning protocols to protect their rural landscapes and community character. As faculty at Harvard University's Graduate School of Design, I led graduate studios and seminars in open space protection and town planning with a focus on the North Shore and on Southeastern Massachusetts. And as faculty at UPenn's Weitzman School of Design for nearly two decades, my teaching and research focused on land use, urban development and infrastructure planning.

From 1990 to 2014, I was also the President and Chief Executive Officer of New York's Regional Plan Association, the nation's oldest independent strategic land use planning group. In this capacity, I led RPA's 35-member professional planning staff in comprehensive planning efforts to protect numerous large rural landscapes around the New York Metropolitan region.

I am a former member of the Massachusetts Historical Commission, and have over a decade of experience serving on the Planning Boards of both Newburyport, Massachusetts and New Canaan, Connecticut. I am also an honorary lifetime member of the Royal Town Planning Institute and American Society of Landscape Architects.

In preparing this letter, I have reviewed each of the three traffic studies submitted by the project proponents, as well as the proponent's application filings and various presentations to the Board. I have also made a field visit to Waldingfield Road. Finally, as a former member of the Newburyport Planning Board, I am familiar with the special permit criteria codified in Section J of the Ipswich's Protective Zoning Bylaw, including whether the adverse effects of a proposed project on traffic safety and neighborhood character outweigh the project's benefits.

### ***Observations on the Ora Proposal***

I have been asked by the Friends of Waldingfield to provide my expert opinion on the critical issues of traffic safety and neighborhood character.

As a starting point, in my expert opinion, the historic and scenic landscape on Waldingfield Road and the surrounding countryside is of *national significance*. This is due to a confluence of factors, including the existence of Appleton Farms (the nation's oldest family owned farm), the proximity of Winthrop Farm (and its association with John Winthrop, the Bay Colony's first Governor), and the historic nature of Waldingfield Road itself. Put simply, Waldingfield Road is today essentially as it was laid out nearly 400 years ago, and the surrounding landscape is a rare survivor in the Commonwealth of landscapes from that period. Even among the many historic landscapes and estates of Ipswich, Waldingfield Road and its environs are in a different class of importance. Indeed, as noted above, the Massachusetts Landscape Inventory, a statewide inventory of the Commonwealth's most important scenic and historic landscapes, identified the district around Waldingfield Road as a "Distinctive Landscape" (see excerpts in Attachment A).<sup>1</sup>

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<sup>1</sup> The pink dot on the map denotes the location of 55 Waldingfield within a "D" designated landscape. <https://maps.massgis.state.ma.us/dcr/hli/glossary.html>: "The 1981 inventory of scenic landscapes throughout the Commonwealth was completed by the former Department of Environmental Management (DEM) to guide acquisition and conservation efforts. The methodology employed a culturally oriented approach with a visual assessment, classifying land into three categories: Distinctive (areas of highest visual quality), Noteworthy (areas of lesser, but nevertheless important, visual quality) and Common (areas that may contain smaller sections of scenic quality but lack consistently high levels). Different criteria for each category were defined for different regions throughout the state. The Scenic Landscape Inventory is still used as a benchmark today for land conservation efforts."

Furthermore, the State Register of Historic Places-listed Appleton Farms (Massachusetts Cultural Resources Inventory Survey (“MACRIS”) Designation IPS.AR)<sup>2</sup> affirmatively designates *both* Waldingfield Road and its stone walls (MACRIS Designation IPS.951)<sup>3</sup> as contributing historic resources within the Appleton Farms listing. The Appleton Farms MACRIS Inventory Form A specifically states as follows:

Waldingfield Road. 1637. Contributing (IPS.951) Waldingfield Road defines the northern boundary of the farm today, though, as with Bay Road, the Farm originally owned land north of this road to the Ipswich River. Waldingfield Road is the earliest road at Appleton Farms. It was laid out in 1637, and served as the primary access road, off of the Bay Path, to Samuel Appleton’s first homestead, built in 1638 not far from the Ipswich River. Today this road is an important spine in understanding the summer home era at Appleton Farms; most of the large summer homes built in the late 19th and early 20th century by Appleton siblings are still extant, nestled on a low ridge between Waldingfield Road and the Ipswich River. Each of these houses was separated from the farm by various Appleton family members by the mid-20th century and Waldingfield Road became the farm’s northernmost boundary. Today the road is a 40’ wide asphalt road with wooded edges, occasionally broken by pasture fencing or house yards. Long lengths of New England stone walls run along the wooded edge on both sides of the road.

By any measure, the exceptional historic nature of Waldingfield Road and its environs means that any proposed changes impacting the Road and surrounding neighborhood warrant exceptionally careful scrutiny. **In my expert opinion, as detailed below, the adverse impacts on traffic and neighborhood character from the proposed project — even with the size reductions recently proposed by the applicant — are major and significant, and warrant denial of the special permit.**

**Methodological Concerns.** First, I am seriously concerned by the fact that the applicant has now presented three highly conventional traffic studies for a roadway whose setting is highly unconventional. The AASHTO and MassDOT standards relied upon by Ora’s consultants in their reports are designed for assessing traffic impacts on roads in conventional, generic settings. They were not established for an historic 17th-century road like Waldingfield Road.

Furthermore, I am significantly concerned by the repeated and exclusive focus on these studies on the level of service at intersections, instead of on whether the increase in traffic generated by the Ora proposal will pose a safety hazard for pedestrians, cyclists, and riders on Waldingfield Road itself. Because these studies are limited to automotive uses, they are insufficient to enable the Board to evaluate adequately the required criteria of traffic flow *and safety*.

Federal and state best practice in transportation and land use planning requires incorporation of “complete streets” strategies for roadway design, which place the interests of pedestrians and cyclists on a par with those of vehicles.<sup>4</sup> None of this is reflected in Ora’s traffic studies. The rule of thumb in the traffic planning field is that as automobile traffic and speeds increase (together or

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<sup>2</sup> <https://mhc-macris.net/#!/details?mhcid=IPS.AR>

<sup>3</sup> <https://mhc-macris.net/#!/details?mhcid=IPS.951>

<sup>4</sup> USDOT’s policy statement is at <https://www.transportation.gov/mission/health/complete-streets-policies>.

separately) the greater the separation required in a roadway to sustain or increase pedestrian and bicycle usage. To achieve this goal, greater physical separation from moving traffic plus a vertical barrier would normally be employed to increase user comfort and make the road more attractive for more non-vehicular users. None of these approaches are either possible or desirable under the Town's scenic road designation for Waldingfield Road.

Second, I am concerned that all of Ora's traffic forecasts are based on artificially low estimates of the number of workers and conferees expected at this proposed facility. In my experience as the former President of the Regional Plan Association, where we frequently evaluated the planning impacts of locating corporate office facilities in suburban areas, traffic studies should be based on higher —and I would argue, more accurate— head-counts and traffic volumes.

While Ora asserts that it intends to continue the current Covid-era trend towards remote work, it is by no means clear that this trend will continue in the post-Covid era, or that Ora's employees will not demand a more traditional in-person working environment. Earlier this month the *Economist* reported that a team of prominent U.S. economists now expect that when the pandemic ends, only 20% of tech sector employees' hours will be worked from home. Nor do Ora's low estimates of on-site workers acknowledge the reality that companies grow, consolidate activities, and are frequently acquired by (or acquire) competitors, all trends currently being experienced by numerous Massachusetts biotech firms. Indeed, during the January 12, 2022 Planning Board hearing, Ora's representatives noted the growth of the company is expected to continue. Any one of these circumstances would greatly add to head counts and traffic volumes associated with this development.

In short, it is best practice in land use planning to develop and present alternative scenarios for a variety of realistic potential circumstances; it is emphatically *not* best practice in land use planning to identify the most optimistic future scenario and presume that it is the only likely scenario. An *MIT Sloan Review* article on scenario planning recommends that a *range* of scenarios be used to “chart a middle ground between under- and overprediction. It helps expand the range of possibilities we can see, while keeping us from drifting into unbridled science fiction.”<sup>5</sup> In this case, independent revised traffic estimates should be developed for a range of potential use scenarios, not just for the scenario that generates the least amount of traffic (and which is therefore the most favorable to Ora's desired outcome in the permitting process).

The reason it is essential to have a range of potential traffic scenarios — and to understand the maximum traffic that could be generated under those scenarios — is simple and straightforward. Once a special permit is granted, it authorizes a certain amount of square footage for use as business office and/or conference space by *Ora or any subsequent user, by right*. Industry standards call for 200-225 square feet of office space per user.<sup>6</sup> If Ora or any successor owner of the proposed facility subsequently wished to add workers or hold more frequent conferences while keeping the floor area the same — for instance, by reducing individual office sizes, thereby generating greater traffic volumes — the Planning Board has no recourse to reconsider its approvals.

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<sup>5</sup> <https://sloanreview.mit.edu/article/scenario-planning-a-tool-for-strategic-thinking/>

<sup>6</sup> <https://www.cbre.com/insights/books/global-occupancy-insights-2021/changing-occupancy-metrics>

In my expert opinion, best land use planning practice is to review projects based upon the *maximum* possible intensity of use for the facility being requested, not the most optimistic *minimum* use asserted by the applicant. Indeed, this is the routine practice in numerous planning approval scenarios that commonly come before Planning Boards. For instance, an applicant who wishes to build a six-bedroom house is required to comply with the wastewater standards for a six-bedroom house, notwithstanding the applicant's assertion that his present intent is to only use one bedroom. The same principle applies with equal force here with respect to potential intensity of use and the attendant traffic generated.

**Traffic Volume and Safety.** Even if the applicant's increase in traffic were "only" (as the applicant now suggests) 500 additional trips per day, this increased volume alone — combined with Waldingfield Road's narrow pavement width, absence of sidewalks, limited sightlines, and blind corners in several locations — will lead to a material and significant decrease in safety for non-automotive users. This is a concern in particular both for residents who walk, cycle or horseback ride on the road and for visitors Appleton Farms, who must walk across the narrow railroad bridge with its blind approaches. The net effect of increased traffic in the volume proposed will be to discourage pedestrians, cyclists and equestrians from using the road as they now do. I have advised rural communities in Massachusetts and elsewhere in the Northeast for four decades on planning measures for preserving their rural character. My expert opinion is that the physical characteristics of this rural roadway (combined with this level of increased traffic volumes and associated noise levels) will have a major and deleterious effect on the character of the Waldingfield Road neighborhood and enjoyment of the road by residents and visitors.

**Traffic Speed and Safety.** I have spent decades as a planning board member and professional land use planner examining the impacts of increased traffic volumes and *speeding* on rural and suburban roads on non-vehicular users of those roads. There has been a great deal of research on the impacts that speeding on rural roads has on these non-automotive users. The Federal Highway Administration reports that although only 19% of the US population lives in rural areas, these areas comprise 60% of recorded traffic fatalities.<sup>7</sup> A major 2011 study by the AAA Foundation not only found a high correlation between speeding and pedestrian injuries and deaths, but found that small increases in speed led to a drastically higher likelihood of severe injury or death: While the risk for severe injury is only 5% at speeds of 23 mph, it increases to 50% at only 31 mph, and then to 75% at 39 mph.<sup>8</sup>

In my experience advising communities with respect to traffic management on rural roadways, speeding is a particular concern when drivers on largely straight arterial roadways with high speed limits (here, 50 mph on County Street and 40 mph on Highland Street) turn directly onto roadways with more rural characteristics and significantly lower speed limits (such as Waldingfield Road, with posted speed limits of 25 mph), as while drivers do tend to reduce speeds in these circumstances, they do not do so the actual level of the lower speed limits. In my experience, it is also conservative to assume that even under the artificially low estimate of over 500 additional trips per day projected by Ora's traffic consultant, average speeds will increase over current conditions, with the insertion of a non-residential facility on a road currently utilized primarily for residential purposes. In summary, while roadway use for *drivers* may not be

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<sup>7</sup> [https://safety.fhwa.dot.gov/local\\_rural/](https://safety.fhwa.dot.gov/local_rural/)

<sup>8</sup> <https://aaafoundation.org/impact-speed-pedestrians-risk-severe-injury-death/>

impeded or measurably delayed in such circumstances, the real and perceived safety of the road for pedestrians, cyclists and equestrians will be adversely impacted.

**Traffic Noise.** An additional factor relevant to both traffic and neighborhood character is that an increased traffic volume on the order of several hundred trips per day will significantly increase the tire and engine noise emissions along Waldingfield Road. While the majority of traffic noise studies have been conducted in urban settings, the well-established correlations between increased traffic volumes and noise levels would also apply in rural settings like Waldingfield Road.<sup>9</sup> The applicant has not, to my knowledge, provided the Planning Board with any studies regarding the noise impacts of hundreds of additional trips per day on the non-automotive users and residents of what is currently a quiet and pastoral scenic road. In my decades of experience advising rural communities, the increase in traffic noise alone from at least 500 additional trips will fundamentally and adversely impact the character of the road and the surrounding rural residential neighborhood.

**Adverse Impact on Neighborhood Character.** In my expert opinion, the increase in traffic volume, the associated increase in traffic noise, and the likely increase in average traffic speeds, will each individually (and certainly in combination) significantly degrade the scenic road character of Waldingfield Road. These impacts would also constitute an “adverse effect” on a State Historic Register-listed asset, as that term is used by the Massachusetts Historical Commission (“conditions which include but are not limited to the introduction of visual, audible, or atmospheric elements that are out of character with, or alter the setting of the State Register property.”)<sup>10</sup>

The Town’s designation of Waldingfield Road as a scenic road also precludes the implementation of standard traffic management measures (such as adding sidewalks or widening the roadway) because the scenic road bylaw precludes the removal of trees or stone walls within the existing right-of-way. Finally, if traffic safety concerns do emerge after the project has already been constructed, there would be no way to adequately address those safety concerns without undermining the very criteria under which the Town designated Waldingfield Road as a scenic road in 1974, per the Town’s scenic road bylaw.

### ***Conclusion***

The Board should at minimum obtain its own independent estimates of the likely number of users for this facility for either office or conference purposes or a combination of both based on national occupancy standards for facilities of this kind. The Board should then obtain its own independent forecasts of vehicle trips on these estimates. This will almost certainly produce a much higher estimate for the increase in traffic generated by this proposed facility.

Regardless, as the Town’s own peer reviewer stated to the Board during the January 12, 2022 hearing, even Ora’s revised assertion of over 500 additional vehicle trips per day would, “to a person who lives on that road, seem like a very significant increase in traffic.” I fully concur with

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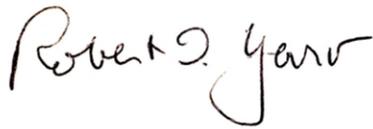
<sup>9</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4058403/>

<sup>10</sup> <https://www.mass.gov/doc/950-cmr-71-protection-of-properties-included-in-the-state-register-of-historic-places/download>

the Town's peer reviewer in this respect. Even Ora's underestimate of the volume of traffic will create irreversible and significant safety concerns for pedestrians, cyclists, and riders, and will significantly degrade the historic and scenic neighborhood character of Waldingfield Road.

My overall conclusion is that Ora's proposed facility simply does not belong on this narrow, historic road in the middle of this exceptional landscape. This is an activity that belongs on Route 1, 1A or another major road, or in downtown Ipswich — but not on Waldingfield Road. In my expert opinion, this proposal does not meet the standards for approval established in the Town's Great Estates Bylaw or the special permit standards established in the Town's Protective Zoning Bylaw. It should therefore be rejected.

Sincerely,

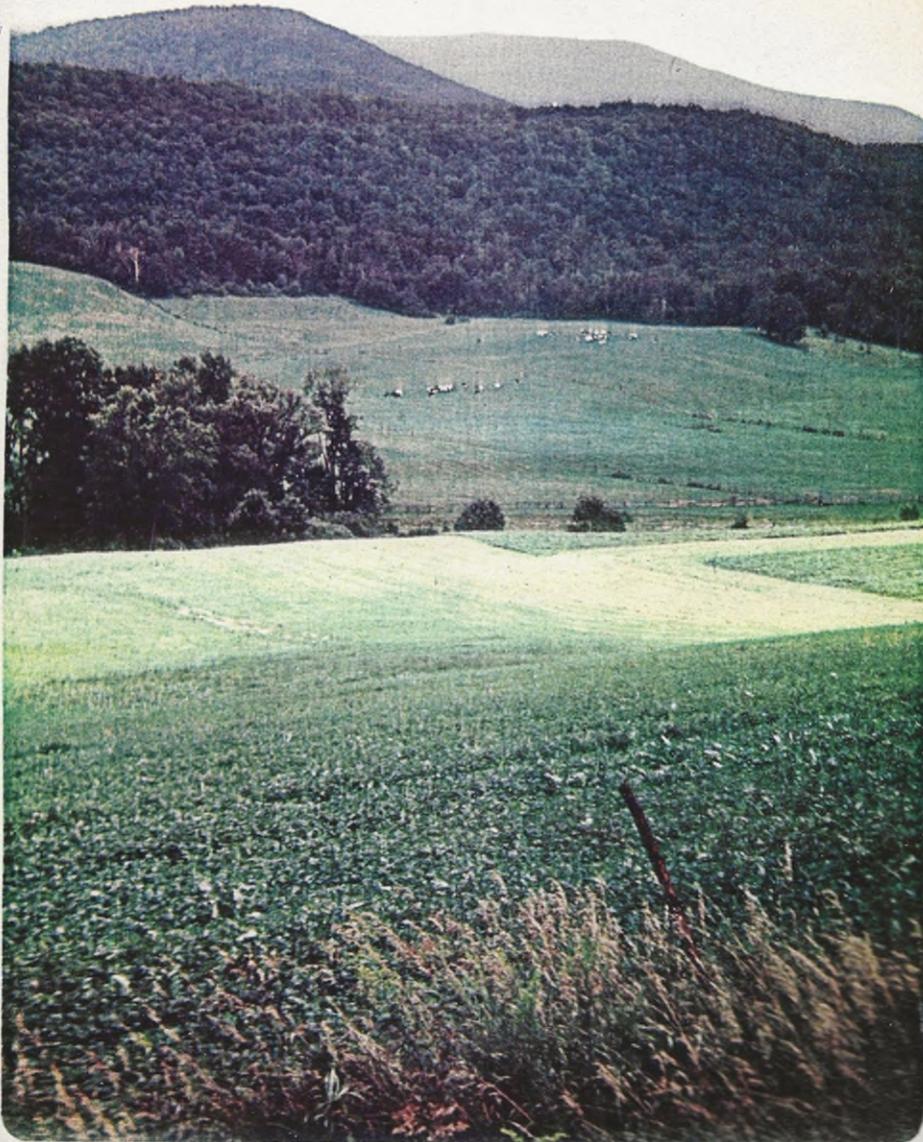
A handwritten signature in black ink that reads "Robert D. Yaro". The signature is written in a cursive style with a large, looped initial "R".

Robert D. Yaro, Professor Emeritus  
University of Pennsylvania

**Attachment A**

**Massachusetts Landscape Inventory (Excerpts)**

# Massachusetts Landscape Inventory





Fresh water marsh, Ipswich

(A3)

Ipswich River Unit (USGS Georgetown, Ipswich, Gloucester, Salem, Marblehead North)

This unit centers on the town of Ipswich and is a southern continuation of the coastal part of Unit 2. It extends from the Rowley River on the north, inland to Topsfield on the west and south to include an area along the Miles River in Hamilton. To the east it includes Castle Neck, Essex Bay and Wingersheek Beach.

The unit contains what is probably the finest coastal scenery in the Commonwealth as well as outstanding farm and river scenery inland. The boundaries along most of the unit have been determined by heavy woods and to a lesser extent by contemporary development, especially in the Hamilton and Topsfield area. Cape Ann and the coastline south of there is for the most part too densely wooded, and too built up to qualify for inclusion in this unit.

Much of this unit is facing intense development pressures.

The Massachusetts Landscape Inventory



70 37 B



Quadrangle Location

Scale: 1" = 5000'



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