Twin Brooks
preserving and conserving for the future

September 21, 2021

VIA EMAIL AND PUBLIC COMMENT SUBMISSION PORTAL

Massachusetts Environmental Policy Act (MEPA) Office
Attention: Ms. Purvi Patel
100 Cambridge Street, 9th Floor
Boston, Massachusetts 02114

RE: EEA No. 16424 – Emblem Hyannis

Ladies and Gentlemen:

Save Twin Brooks, Inc. is a Massachusetts nonprofit corporation whose members seek to preserve for our community the nearly 40-acre Twin Brooks Golf Course site—the last large open greenspace in Hyannis Village. We therefore oppose the development of the proposed 312-unit Emblem Hyannis apartment complex on the Twin Brooks site (the "Project"). Most of our members are year-round residents living in nearby neighborhoods; others are seasonal residents. All cherish the rich natural and cultural heritage of our community.

We acknowledge housing issues on Cape Cod. But we believe our community would be better served by preserving this open, environmentally sensitive site as public parkland, consistent with the goal stated on page 55 of the Cape Cod Regional Policy Plan adopted in February 2019 ("RPP") to "conserve, preserve, or enhance a network of open space that contributes to the region's natural and community resources and systems." This also would serve key Environmental Justice aims.

We realize that the ultimate decision whether to grant the necessary permits and variances for the Project may rest with other bodies, such as the Cape Cod Commission and Barnstable's Town Council. Nonetheless, the Environmental Notification Form filed by the Project's proponent (the "ENF") raises serious environmental, cultural, and Environmental Justice questions on which your agency can provide useful guidance. We respectfully urge your agency to review this ENF carefully and in the context of the bigger picture: a community in need not only of housing but also of parkland and protected natural environment, especially for underserved communities nearby. Large-scale development on this site will forever foreclose for Hyannis and its residents this opportunity for public greenspace. The Project merits a much deeper review in a draft and then final Environmental Impact Report.

1. Site Description

The Project's site is the existing Twin Brooks Golf Course, a nearly 40-acre tract near the West End Rotary in Hyannis. This property currently consists entirely of open grassland, forest, and

riparian land, with the exception of two small sheds, cart paths, and a slender sliver of a parking lot. The property essentially is a triangle, bordered on its two longest sides by Stewart's Creek and Joshua's Brook, which converge at its southern tip to form an estuary that in roughly 2,000 feet empties into Lewis Bay/Nantucket Sound.[1] The third and smallest side parallels and connects to Scudder Avenue, a two-lane road off the West End Rotary that, beginning with the western border of the site, runs through only single-family residential neighborhoods.[2]

The proponent touts the Project as "bridge" between "downtown" Hyannis and traditional single-family residential communities to the southwest.[3] But today the Twin Brooks Golf Course already serves as a bridge: a natural bridge connecting the heavily wooded, wildlife-rich forest and wetlands areas immediately to the east and the west, allowing numerous species to go back and forth. Building the Project would demolish this natural bridge and replace it with a net 8.7 additional acres of impervious land, both buildings and paved areas.[4] It also would forever eliminate the option to dedicate this greenspace to public use in an area with little parkland close to neighborhoods, including the Environmental Justice populations to the north and west.

2. Environmental Impacts

a. Impact on Stewart's Creek Estuary

The Twin Brooks Golf Course is located in a sensitive wetlands environment bordering an increasingly degraded estuary. Contrary to some statements in the ENF, both Stewart's Creek and Joshua's Brook exhibit tidal flow.[5] The natural tidal flow of Stewart's Creek has been restricted for decades by the Ocean Avenue causeway and culvert. This condition was not materially improved by the recent efforts of the Army Corps of Engineers to increase the size of the culvert.

The constrained water flow and decaying vegetation in this estuary contribute to the rise in bacteria levels affecting the two downstream public beaches, Keyes Memorial and Fortes Beaches. Increased bacteria presence in turn causes increasingly frequent closures of these recreational resources. The Project threatens further degradation of the estuary by changing the natural hydrology of the upper northeast corner of wetlands bordering Stewart's Creek and Joshua's Brook. A large housing development with 8.7 acres of impermeable surfaces—roofs, driveways, parking

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1 *E.g.*, ENF Vol. I, pp. 3-1 and 3-11 Fig. 11.

2 *See, e.g.*, ENF Vol. I, p. 1-2 Fig. 1 and p. 1-3 Fig. 2.

3 ENF Vol. I, p. 1-6.

4 *E.g.*, ENF Vol. I, p. 2 and p. 1-5 Fig. 4. The ENF treats the golf course as "developed" acreage and, because the footprint of buildings, driveways, parking, and sidewalks is less than the area of the fairways, greens, and rough, the proponent claims a net reduction in "improved areas" and an increase in "undeveloped areas." ENF Vol. I, pp. 8, 1-6, 2-1. Regardless of whether those terms are being applied in a technically correct fashion, common sense dictates that the more relevant figure is the ***8.7-acre net increase in building footprints, internal roadways, and parking and other impervious hardscape***. ENF Vol. I, pp. 2, 8. This is inconsistent with RPP goals. *See* RPP p. 56 ("Minimize the amount of newly disturbed land and impervious surfaces").

5 *See*, *e.g.*, ENF Vol. II, App. H, p. 2 ("two freshwater perennial streams").

areas—plus net removal of trees and green vegetation would negatively affect the water balance in this estuary and has the potential to increase fast runoff. Plans for vegetative buffer and drainage zones and other remediation efforts cited in the ENF are not presented with sufficient detail to be convincing.

b. Human Impacts

With 510 bedrooms,[6] the Project would introduce hundreds of additional people, along with countless dogs and other pets, into what is now a mostly natural setting. Pets can escape their owners and enter these natural areas. Pet waste can be the leading source of phosphorus in urban waters.[7] The ENF does not address or assess the impact of pets and pet waste or mitigation measures. The ENF mentions no proposed limitations on use of remaining natural areas or rules for people or pets. Diagrams of the complex do not show fencing, and at your September 9, 2021, site visit the proponent's representative confirmed none is planned. (To be clear, members of Save Twin Brooks love our dogs and other pets, but we employ measures to assure that they do not damage surrounding natural areas.)

The reduction in green space (including cutting down uncounted mature trees), the elimination of the natural connection between species-rich areas to the east and west, and the inevitable interactions with human and domesticated animal life no doubt will change this species-rich habitat, from cutting off natural pathways for wildlife to pet waste to dramatically increased heat footprint and reduced natural carbon sequestration.[8] We respectfully submit that the ENF does not adequately discuss or address these impacts.

c. Flood Hazard

The Project site has 204,137 square feet of riverfront area and 3,198 square feet of land subject to coastal storm flowage.[9] Several Project components would cross into both the 200-foot riverfront setback area and the 100-foot State coastal bank buffer zone.[10] The main and the emergency entrances/exits are shown as flooding in a Category 3 hurricane, with Category 2 levels very close.[11] Given rising sea levels, climate change, and the storms the Cape has seen just this summer, building this Project in this location just is not sensible. And for the same reasons, it does not seem possible that "[t]he stormwater management system is designed to accommodate up to the

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[6] *See* ENF Vol. I, p. 2-1 (breakdown of unit configurations). Treating a studio as a bedroom, the table totals to 510 bedrooms.

[7] Todd Reubold, *Study: Lawn fertilizers and pet waste are the major sources of nitrogen and phosphorus pollution in urban waters*, available at http://environment.umn.edu/news/nitrogen-and-phosphorus-pollution-in-urban-watersheds/ (summarizing University of Minnesota study of Twin Cities area). This and other internet references were accessed during September 2021.

[8] *See*, *e.g.*, RPP p. 30 (benefits of open space).

[9] ENF Vol. I, p. 11.

[10] ENF Vol. I, p. 3-5 and Vol. II, App. D p. 23.

[11] ENF Vol. II, App. D p. 24 Fig. 9.

100-year storm event."[12] Even if the Project does not exceed specific thresholds for particular wetlands impacts and reviews, it comes close in so many categories that the cumulative impact, coupled with Project's sheer size, could be harmful. The massive size of the Project and the unique features of this site suggest that a closer and more detailed review is warranted.

d. Nitrogen Discharge

The proponent asserts that the Project would reduce nitrogen discharge from current levels.[13] But the proponent's calculation of current discharge levels is highly suspect:

- The ENF does not explain the source of its assumptions regarding current nitrogen discharge levels.[14] In particular, current nitrogen discharge from the property is calculated using 3 pounds per 1,000 sq. ft. per year. That is the Cape Cod Commission's technical guidance for residential lawns, but nowhere does the guidance suggest that is appropriate for golf courses,[15] nor is any other basis cited for using that figure. Other relevant studies—including by the Massachusetts DEP—have used actual data from golf courses (including Twin Brooks) to calculate their nitrogen discharge.[16] Nothing in the ENF indicates that the proponent or its consultants ever obtained or even sought information from the current operator of the golf course to determine what they actually are doing. Information on many golf courses' fertilizer and pesticide use is reported regularly to the Massachusetts Department of Agricultural Resources.

- The ENF's calculation ignores rainfall onto the currently green areas, which reduces nitrogen concentration, and uses lot sizes different from those described in the rest of the ENF.[17]

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[12] ENF Vol. I, p. 6.

[13] ENF Vol I., pp. 3-13 and 5-3, and Vol. II, App. I.

[14] *See* ENF Vol. II, App. D p. 15 and App. I.

[15] *See* Cape Code Commission Water Resources Technical Bulletin p. WR-38, available at https://www.capecodcommission.org/resource-library/file/?url=/dept/commission/team/Website_Resources/regulatory/tech_bulletins/Water_Technical_Bulletin_2019.pdf. A University of Minnesota study in the Twin Cities area showed that household nitrogen fertilizer use was 10 times greater than use for golf courses, college campuses, and other nonresidential locations. Todd Reubold, *supra* note 7.

[16] To calculate golf course nitrogen discharge, the MDEP/UMass-Darmouth *Massachusetts Estuaries Project* for Lewis Bay relied on specific information provided by the golf courses themselves, including Twin Brooks. *See Massachusetts Estuaries Project (Lewis Bay Barnstable/Yarmouth)*, pp. 35 to 39 (2008, updated 2017), available at https://www.mass.gov/doc/lewis-bay-embayment-system-barnstableyarmouth-ma-2008/download. Despite problems in the past, golf course today typically enhance the environment by reducing harmful fertilizers as well as providing wildlife habitats and reducing heat footprints. *See* Audubon International, *Golf and the Environment*, available at https://audubonintenational.org/wp-content/uploads/2019/03/GE-Golf-and-the-Environment.pdf.

[17] *Compare* ENF Vol. II, App. D p. 1 (stating 39.6 acres, which is 1,724,976 sq. ft.) *with* ENF Vol. II, App. I, p. 2 (using 1,538,539 sq. ft., which is 35.3 acres).

- The ENF's calculation appears to apply a 25% leaching figure. Although this complies with previously approved methodologies of the Cape Cod Commission for residential lawns,[18] it does not reflect more recent studies showing 20% is more appropriate for golf courses.[19]

Correcting for these factors and using the Cape Cod Commission's methodology, Appendix 1 to this letter calculates the current golf course's nitrogen load as being 2.51 ppm, well under both the proponent's calculation of 5.43 ppm and the Cape Cod Commission's upper limit of 5 ppm.[20] At a minimum, the proponent should obtain the operator's current practices and recalculate current discharge levels based on facts rather than analogize inappropriately to generic assumptions about residential use.

e. Wildlife Inventory

The proponent's natural resource inventory identifies a variety of wildlife at the site.[21] The expert's avifauna survey, however, occurred primarily in mid-June 2021,[22] outside migratory seasons for many avian species. Only two visits included periods outside daylight hours, which were brief intervals just after sunset, and none were at or before dawn.[23] These visits thus would miss nocturnal mammals or those that might not enter the site while golfers are present, many species of which are regularly seen in the area: otters, turkeys, osprey, coyotes, rabbits, chipmunks, squirrels, and deer, to name a few. These limited observations render this report's inventory and conclusions highly suspect. A more detailed review is warranted, including interviews with golfers and others who frequent the site.

f. Underground infrastructure

The Twin Brooks Golf Course was built in the 1960s.[24] At that time, builders often used pipes for irrigation and other systems that contain hazardous materials, including asbestos.[25] The ENF does not address the potential for disturbing this infrastructure and related remediation. There

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[18] Cape Cod Commission Water Resources Technical Bulletin, *supra* note 16, p. WR-38.

[19] Horsley Whitten Group, *Evaluation of Turfgrass Nitrogen Fertilizer Leaching Rates in Soils on Cape Cod, Massachusetts* (2009), available at https://www.town.orleans.ma.us/sites/g/files/vyhlif3631/f/pages/horsely_witten_2009_fert_study.pdf.

[20] Cape Cod Commission, *Drinking Water and Groundwater*, available at https://www.capecodcommission.org/our-work/drinkingwater.

[21] ENF Vol. II, App. H.

[22] ENF Vol. II, App. H p. 5.

[23] ENF Vol. II, App. H p. 7.

[24] ENF Vol. I, p. 1-6.

[25] *E.g.*, Golf Course Superintendents Association of America, *Asbestos exposure: A hidden hazard on your golf course?*, available at https://www.gcmonline.com/course/environment/news/asbestos-exposure-golf-course; *Golfdom*, March 1964 issue, p. 111, available at https://archive.lib.msu.edu/tic/golfd/page/1964mar111-120.pdf.

also is no discussion of whether the developer will commit to make available the financial resources necessary for any required asbestos abatement.

3. Transportation and Traffic

The proponent estimates that the Project will generate more than 1,150 net additional vehicle trips per day.[26] It bases this estimate on a traffic study that is clearly labelled "DRAFT" on every page and not signed by the traffic consultant.[27] Yet even taking this draft study at face value, the following impacts are clear:

- The number of vehicle trips per day on Scudder Avenue—the two-lane road to which the Project's driveway connects just before it enters single-family residential neighborhoods—***increases nearly 25%***.[28]

- This location already faces ***serious traffic deficiencies and dangers***. For example, the motor vehicle crash history at the nearby intersection of North Street and Stevens Street was unusually high and requires correction.[29] Adding even (likely underestimated) 1,152 vehicle trips to this area simply increases the safety and congestion risks that the proponent's own expert has identified.

In addition, many of the study's draft conclusions rest on clearly flawed data and analysis. For example:

a. ***The draft traffic study underestimates the number of vehicles and vehicle trips that the Project will generate, including in busy periods.*** The traffic study estimates traffic generated by the Project using ITE Land Use Code 221.[30] That is a generic, nationwide formula for "mid-rise" buildings of 3-10 stories. It does not take into account the particulars of ***this*** Project at ***this*** location.

   The Project's 312 units include a total 510 bedrooms, 420 of which are in studios or 1- or 2-bedroom units.[31] Although some bedrooms may not be occupied by drivers, most units—perhaps the vast majority, given the target market of middle-income working families—will be occupied by at least ***two*** drivers with ***two*** vehicles, most of whom are leaving and returning during the same morning and evening windows. Many family units in the Town of Barnstable include working teen and adult children, and many adults share apartments with nonfamily, meaning units often will have more than two vehicles. Despite this, the number

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[26] *E.g.*, ENF Vol. I, p. 17, Vol. II, App. F.
[27] ENF Vol. II, App. F.
[28] ENF Vol. I, p. 17, and Vol. II, App F p. 20 Table 6.
[29] ENF Vol. I, p. 3-18, and Vol. II, App. F pp. 14 to 16, 42 to 43, and 45.
[30] ENF Vol. II, App. F p. 19.
[31] *See* ENF Vol. I, p. 12-1

of residents' parking spaces in the Project design and on which the draft traffic study in part is based is 468, which the proponent acknowledges is ***below*** what zoning guidelines require.[32]

Apparently governmental officials encouraged this downsizing to reduce the impervious area. But reducing parking spaces does not necessarily reduce vehicle usage. According to census data, 81% of Barnstable County workers drive to work alone and another 6% carpool—higher than both U.S. and Massachusetts averages.[33] Even if the proponent furnishes residents with information encouraging reduced vehicle usage, one cannot assume this will result in materially lower usage than actual historic behavior on the Cape. Not all jobs, shopping, and recreation will be within walking or biking distance or on public transportation routes. Supermarkets, home goods stores, and other shopping that families frequent are more than a mile away; walking or using public transportation to reach these facilities is not practical. Given these facts, it simply is not realistic to conclude that residents will have no more than 468 vehicles and will generate only 1,700 vehicle trips per day. The Project's proponent should detail where the excess will park. Unless more impervious surface is added to the site, neighboring streets are the obvious choice. And if lack of adequate parking deters individuals from living at the Project, its economic success, and therefore many of its purported positive benefits, will be in jeopardy from the start.

b. ***The draft traffic study overestimates the current number of vehicles trips at the site.*** The proponent's draft traffic study uses a generic guideline for golf courses to calculate 548 trips per day currently to and from the site.[34] Some simple math shows that this greatly overstates current traffic from the Twin Brooks Golf Course.

If one assumes 20 employees or service providers (probably high) at one daily round-trip each, that leaves 508 trips made by golfers. Even if each golfer drives separately—which is highly unlikely given that golf usually is a group activity with family and friends—508 trips requires an average of 254 golfers, or 63.5 foursomes, per day, seven days a week year-round.[35] A customary 10-minute interval between tee times allows no more than 6 foursomes to start each hour—meaning that the draft traffic study assumes the golf course on average is being used to full capacity for tee times starting over 10 hours a day (and rounds completed 2-3 hours later), seven days a week, all year, regardless of rain, snow, and the short daylight hours of a Cape winter—all with each golfer driving separately.

That simply is not credible. It no doubt vastly exceeds the course's actual experience. (If the golf course were averaging the proponent's implicitly assumed level of business, we doubt it would be for sale.) In oral conversations, golf course personnel have told our

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[32] ENF Vol. I, p. 2-5, and Vol. II, App. D p. 12.

[33] Census Reporter, *Barnstable Town, MA, Area*, available at https://censusreporter.org/profiles/31000US12700-barnstable-town-ma-metro-area/.

[34] ENF Vol. I, p. 17, and Vol. II, App. F p. 20.

[35] Not every group teeing off has four players. Twin Brooks advertises that one can book smaller groups and no one will be added to the party. https://www.twinbrooksgolf.net/home-page-5-boxes/book-a-tee-time/. Smaller groups mean even fewer vehicle trips.

members that the course gets only 25 to 40 groups a day on days when weather permits. Regardless, the proponent surely can obtain from the golf course operator its exact historic usage statistics, by patrons, employees, and service providers and in non-COVID years, and use those data to generate a more accurate, fact-based base traffic level for its traffic study.

c. ***The draft traffic study overlooks the impact on traffic in the nearby Environmental Justice populations.*** Environmental Justice populations live just north and west of the Project site.[36] The draft traffic study does not evaluate traffic impacts on the residential streets in these neighborhoods, which today often suffer from serious congestion. For example, based on conversations with residents, drivers often use Mitchell's Way, a residential street running between North Street and Pitcher's Way, to avoid congestion at the West End Rotary and the streets that feed into it. Adding a net 1,152 trips per day—and likely hundreds more—no doubt will compound the already increasing traffic in these neighborhoods. As noted below, the ENF discloses no consultation with Environmental Justice individuals or community groups.

4. Cultural Issues

The developer attempts to demonstrate that the Project meets the objective of context-sensitive buildings and site designs as well as honoring the Cape's history.[37] But a closer look shows that these efforts are minimal and superficial.

a. ***A 312-unit, 510-bedroom complex is not consistent with size or scale on Cape Cod.*** Nothing on the Cape approaches the size and concentration of this Project. It packs together more than a dozen essentially identical rectangular, flat-façade boxes, each over 45 feet tall, with hundreds of people living and more visiting. This ignores the Cape Cod Commission's goal to "[p]rotect and preserve forms, layouts, scale, massing, and key character defining features of historic resources, including traditional development patterns of villages and neighborhoods"[38] and its technical guidance for large-scale development.[39] Moreover, it would be located directly adjacent to forested waterways and single-family neighborhoods. That is not in keeping with historic building on Cape Cod.

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[36] ENF Vol. I, p. 3-24 Fig. 14.

[37] *See. e.g.,* ENF Vol. II, App. D, pp. 11-12.

[38] RPP p. 58.

[39] *Compare* ENF Vol. I cover *with, e.g.,* Cape Cod Commission, *Addendum to Technical Bulletin No. 96-001: Contextual Design on Cape Cod: Design Guidelines for Large-Scale Development*, pp. 7 ("the bulk and mass of the building should be broken down to a scale that reflects the context of the surrounding neighborhood"), 22 ("Reduce the apparent size of a large building by designing a main mass with several smaller, attached components"), 23 ("Create variation in setback of façade"), 26 (" Vary the roof line"), and 28 ("Bring down the edges with smaller, attached masses"), available at https://www.capecodcommission.org/resource-library/file/?url=/dept/commission/team/Website_Resources/regulatory/ContextualDesignFinalWeb.pdf.

b. ***Historical and Archeological.*** The proponent has conducted no historical or archeological studies, but merely has notified other agencies.[40] The site is very close to the coast, up what once were easily navigable streams, where indigenous peoples often lived before European settlement. A thorough review should be conducted before building on and paving over acres and acres of land that may hold remnants of earlier inhabitants of this delicate area.

5. Environmental Justice

The proponent's list of organizations contacted shows only generic civic and chamber-of-commerce associations, not groups specifically embracing or addressing minority or lower income communities.[41] The ENF does not evaluate the alternative of turning this land into public parkland, which can provide needed recreational space for currently underserved communities. The views of Environmental Justice populations and the impacts on them should be evaluated, understood, and taken into account.

6. Alternatives

The ENF includes only cursory discussion of alternatives.[42] Regarding current use, as Audubon International has concluded, golf courses often are net contributors to a better environment, supporting wildlife habitats, protecting drinking water, improving the condition of water resources, absorbing carbon, reducing the heat footprint, and contributing to physical and mental well being.[43] Regarding lower density residential design, the discussion is short and conclusory. More important, the ENF does not evaluate the alternative of turning this land into public parkland. The ENF presents no discussion of building this Project on another, less sensitive site in the Town of Barnstable or building several smaller projects at different locations whose environmental and traffic impacts on nearby natural areas and neighborhoods would be less. The proponent should be required to present and evaluate these obvious alternatives.

7. Mitigating Factors

The ENF does not adequately support the economic benefits it claims as mitigation to the Project's adverse impacts. First, projected recurring net fiscal benefits to the Town of Barnstable and the Hyannis Fire District and under the Community Preservation Act total barely $44,000 annually according to the proponent's own calculations—including a net ***loss*** to the Town of $6,257.[44] Moreover, the analysis expressly acknowledges that it does not take into account several "unknowns" that may require significant capital expenditures: possible upgrades to the pump station, construction of a new treatment facility, adding new traffic signals, sidewalk repairs and

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[40] ENF Vol. I, p. 21.
[41] *See* ENF Vol. I, p. 3-23.
[42] ENF Vol. I, pp. 4-1 to 4-3.
[43] Audubon International, *Golf and the Environment*, *supra* note 16.
[44] ENF Vol. II, App. K p. 4. The ENF elsewhere states that the net benefits to the Town are approximately $32,000, Vol. I, p. 5-3, but the calculation in the economic analysis in Appendix K is $31,176.

replacements, and upgrades to the West End Rotary.[45] Such minimal purported recurring benefit, coupled with the possibility of capital expenditures not captured in the analysis, should not count as mitigation.

Second, the claimed addition of $1.22 million demand in the local economy and resulting modest increases in the Town's revenues from motor vehicle and meals taxes[46] rest on faulty assumptions and analysis and therefore should be disregarded or heavily discounted:

- The touted $1.22 million figure is simply the product of an estimated restaurant spend of $3,900 per household times 312 households.[47] The economic analysis goes on to say that "it is unlikely that all of the new spending demand from these households would be captured by Town establishments . . . ."[48] Thus the proponent's own study does ***not*** conclude that local establishments will benefit by $1.22 million.

- The analysis assumes that all 312 units are built and occupied.[49] First, the Project is being built in phases, and this assumes all phases will be completed. Second, neither the proponent nor its economic expert provides support for assuming 100% occupancy. Regardless of typical occupancy rates in this market, as noted above the reduced level of parking may deter prospective renters. These calculations must be redone to address the possibility of later phases not being built and to adjust for less than 100% occupancy.

- The analysis also assumes that all 312 households are "net new to the Town and not a relocation of existing households."[50] But surely some sizeable portion of these households would be relocating ***within*** the Town of Barnstable. Those households do not provide a net addition and must be eliminated from the calculation. Even if they shift spending to closer to the Project's site, merchants in other parts of the Town are losing that spending.

- Even for households moving into the Town, it is highly likely that some local spend already is occurring. A key purpose of this Project is to provide housing for people who work in the Town but cannot find or afford housing here. The analysis does not take into account that these individuals already are spending money in the Town, such as meals and shopping while here or commuting.

- The analysis does not take into account current spend by customers and personnel at the Twin Brooks Golf Course. If as the proponent's traffic study implicitly assumes 400+ golfers are visiting every day (see comments above), surely some are spending the money on meals, shopping, gasoline, etc.

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[45] ENF Vol. II, App. K p. 12.
[46] ENF Vol. I, p. 5-3.
[47] ENF Vol. II, App. K pp. 8 and 9.
[48] ENF Vol. II, App. K p. 9.
[49] ENF Vol. II, App. K p. 5.
[50] ENF Vol. II, App. K p. 8.

- The analysis does not depend on all 312 units being in a single location of this scale. A series of four complexes at less sensitive locations averaging 78 units, for example, would produce the same results. The same would be true of ten 31- or 32-unit developments.

The proponent's asserted economic benefits are at best overstated and do not address possible significant capital expenditures on public works. The proponent should revise its economic study to include a more robust and realistic analysis of net economic benefits, if any, from this Project, including as compared to other configurations at one or more other locations, before they can count as mitigation to the Project's adverse environmental and other impacts.

8. Conclusion

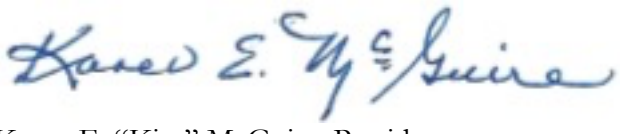
The ENF fails adequately to describe and evaluate the Project's environmental aspects, and its analysis of alternatives is lacking. In particular the Project would:

- Deprive the Hyannis community of its last open greenspace near the heart of town
- Eliminate the natural connection between nearby neighborhoods, impacting the habitat and movement of natural wildlife
- Increase impervious development and heat footprint and reduce natural carbon sequestration
- Dramatically increase vehicle traffic in an already overtaxed area, affecting Environmental Justice populations as well as those immediately adjacent
- Rest on questionable assumptions regarding wildlife, nitrogen discharge, and vehicle usage
- Not represent Cape Cod aesthetic and cultural values, both in scale and design
- Have unknown historical and archeological impacts
- Not generate significant sustained net economic benefits to the Town

The Project merits a much deeper review in a draft and then final Environmental Impact Report.

Respectfully,

SAVE TWIN BROOKS, INC.



Karen E. "Kim" McGuire, President

cc: Ed Pesce, PE – epesce@comcast.net
Daniel Lee – dan.lee@livelmc.com
All listed in ENF Vol. II, App. A

APPENDIX 1
CALCULATION OF NITROGEN DISCHARGE

Twin Brooks Golf Course 35 Scudder Avenue, Hyannis Nitrogen Loading Calculations

(Barnstable @ 18" per year)

WASTEWATER

Title 5 (2 people per bedroom)

X — 110 gpd / bedroom X — 3.785 L / gal = 0.0 L/d X — 19 mg / L = 0.0 mg/d

Actual (2.0 people / unit average occupancy within the town)

X 110 gpd / bedroom X — 3.785 L / gal X — 2.0 / 6 = 0.0 L/d X — 19 mg / L = 0.0 mg/d

IMPERVIOUS SURFACES

Number of Bedrooms: 0 (Note: No Golf Restrooms)
Lot Size: 1,724,976 Square Feet
Roof/Deck: 306 Square Feet
Pavement, Sidewalks & Gravel: 3,500 Square Feet

Water Recharge Factor = 1.5 Feet
Natural Area: 1,721,170 Square Feet
Lawn/Garden: 675,335 Square Feet
Title 5 flow: 0 Gallons per day

Roof Area = 306 Sq. Ft. X — 40 in. / Year X — feet / 12 in. X — 28.32 L / cub. Ft. X — 1 yr / 365 day = 79.1 L/d X 0.75mg / L = 59.36 mg/d

Pave Area = 3,500 Sq. Ft. X — 40 in. / Year X — feet / 12 in. X — 28.32 L / cub. Ft. X — 1 yr / 365 day = 905.21 L/d X - 1.5mg / L = 1,357.81 mg/d

LAWN

Lawn Area = 675,335 Sq. Ft. X - 3 lbs. / 1000 s.f.*yr X — 365 yr / d X — 454,000 mg / lb. X 0.20 = 504,003 mg/d

NATURAL

Natural Area = 1,727,170 Sq. Ft. X — 1.5 ft / yr X — 28.32 L / cub. Ft. X — 1yr / 365 d = 200,315.9 L/d

SUMMARY

Title 5: 0.0 / 0.0 + + 59.36 + 1,357.81 / 79.14 + 905.21 + 504,002 mg / 200,315.9 liters = = 505,419.2 mg / 201,300.3 liters = **2.51 ppm**

Actual: 0.0 / 0.0 + + 59.36 + 1,357.81 / 79.14 + 905.21 + 504,002 mg / 200,315.9 liters = = 505,419.2 mg / 201,300.3 liters = **2.51 ppm**

(2.51 + 2.51)/ 2 = **2.51 ppm**

Final Calculation

Note: Changes from ENF calculations appear in red.