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CAPE COD
COMMISSION

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**CAPE COD COMMISSION STAFF REPORT
DEVELOPMENT OF REGIONAL IMPACT REVIEW**

Date: October 7, 2024
Project: Quaker Road Monopole (File No. 24011)
Project Applicant: Vertex Towers, LLC
c/o Francis Parisi, Esq., Parisi Law Associates, P.C.
225 Dyer Street, Providence, RI 02903
Property Owner: Roman Catholic Bishop of Fall River
c/o St. Elizabeth Seton Parish
Property/ Site: 481 Quaker Road, Falmouth, MA 02556 (Assessors ID 12-05-001-010)
Title Reference: Book 187 Page 54
Subcommittee: John Druley, Catherine Ledec, John D. Harris, Stephen Mealy, and Richard Roy

Project Description and Context

The Applicant proposes development on a leased portion of a +/- 10.49-acre property ("Property"; "Project Site"). The Property currently contains a church and associated parking lot. The Applicant proposes the construction of a 120-foot multi-user monopole-style wireless communications tower with associated equipment ("Project"). The Applicant has legal standing to pursue the Project through a Memorandum of Lease and a Letter of Authorization, both from the Property Owner. As proposed, the development and construction of the wireless communications tower would consist of:

- clearing +/- 9,900 square feet of vegetated area;
- constructing a 48'x58' compound surrounded by a 6'-tall fence; and
- installing the monopole tower, carrier antennas, concrete equipment pads, and all associated ground equipment (including equipment cabinets, propane generators, and propane tanks) within the fenced area.

A portion of the +/- 10.49-acre Property not proposed to be developed includes mapped Natural Areas placetype due to the presence of wetlands and the 100-foot wetland buffer. Staff suggest the remainder of the Property, including the area proposed for development, is best characterized as a Suburban Development Area Placetype. Suburban Development Areas include residential neighborhoods built primarily between the 1950s and 1990s and may have a patchwork of fragmented open space.

DRI Jurisdiction

The Project requires mandatory DRI review pursuant to Section 3 of the Commission's *Chapter A: Enabling Regulations Governing Review of Developments of Regional Impact ("Enabling Regulations")* (revised May 2020) as the "[c]onstruction of any Wireless Communication Tower exceeding 35 feet in overall height...".

The Commission received a mandatory Development of Regional Impact referral for the Project from the Town of Falmouth ("Town") on June 16, 2024.

The Applicant submitted DRI application materials to the Commission on August 9, 2024. The hearing period was opened procedurally on August 13, 2024.

DRI Review Standards

Section 7(c)(viii) of the Commission's *Enabling Regulations* contains the standards to be met for DRI approval, which include, as applicable, consistency with the Cape Cod Regional Policy Plan (RPP), municipal development bylaws, District of Critical Planning Concern (DCPC) implementing regulations and Commission-certified Local Comprehensive Plans. The Commission must also find that the probable benefit from the Project is greater than its probable detriment.

DRI review of the Project is subject to the 2018 RPP, amended in March 2021, which is the version of the RPP in effect at the time of the Commission's first substantive public hearing on the Project. The Commission determines the Project's consistency with the Act and 2018 RPP by determining whether the Project is consistent with the Goals and Objectives in Section 6 of the 2018 RPP, as particular goals and objectives are deemed applicable and material to the Project.

Cape Cod Regional Policy Plan

Applicable and Material RPP Goals and Objectives

Commission staff reviewed the details of the DRI Application Materials and suggest that the following RPP Goals are applicable, material, and regionally significant and are thus subject to RPP consistency review: Community Design, Cultural Heritage, Water Resources, Open Space, and Capital Facilities and Infrastructure. Ongoing operations and activity at the Property would be minimal, thus the Project does not involve regionally significant or sustained effects on the transportation network.

Commission staff make the following recommendations relative to the Project's consistency with these RPP Goals and relevant Objectives and Technical Bulletin guidance:

Community Design

The Community Design Goal of the RPP is to protect and enhance the unique character of the region's built and natural environment based on the local context. The following Community Design Objectives are applicable and material to the Project:

- Promote context sensitive building and site design (CD1);
- Minimize the amount of newly disturbed land and impervious surfaces (CD2); and
- Avoid adverse visual impacts from infrastructure on scenic resources (CD3).

The proposed 120-foot-tall monopole is sited to the rear of an existing developed property, behind a church and its associated parking lots. The site is surrounded by mature vegetation to the north, east, and south, and is partially blocked from views to the west by the church and existing trees on the site. Based on the location and on photo simulations provided by the applicant, the proposed monopole would have limited visibility from surrounding roadways and public spaces. Staff suggest the Project is consistent with Community Design Objectives CD1 and CD3. Regarding landscape plantings proposed along the west side of the fenced enclosure, staff suggest two staggered rows of plantings would be more effective at screening the chain link fence and equipment shelters.

The proposed monopole is located immediately adjacent to the existing parking lot and will use the existing site access, thus limiting the amount of newly disturbed land and impervious surface area consistent with Objective CD2.

Cultural Heritage

The Cultural Heritage Goal of the RPP is to protect and preserve the significant cultural, historic, and archaeological values and resources of Cape. The following Cultural Heritage Objectives are applicable and material to the Project:

- To protect and preserve forms, layouts, scale, massing, and key character defining features of historic resources, including traditional development patterns of villages and neighborhoods (CH1); and
- Protect and preserve archaeological resources and assets from alteration or relocation (CH2).

There are no historic resources located in close proximity to the proposed monopole. Based on the state's cultural resource database, the North Falmouth National Register District and West Falmouth National Register District are each located over half a mile away. These and other inventoried historic properties are unlikely to be impacted by the monopole due to distance

from the tower, along with heavy vegetation and changes in topography. As such, the Project is consistent with Cultural Heritage Objectives CH1 and CH2.

Water Resources

The Water Resources Goal of the RPP is to maintain a sustainable supply of high-quality untreated drinking water and protect, preserve, or restore the ecological integrity of Cape Cod's fresh and marine surface water resources. The following Water Resources Objectives are applicable and material to the Project:

- Protect and preserve groundwater quality (WR1);
- Protect, preserve, and restore marine water resources (WR3); and
- Manage and treat stormwater to protect and preserve water quality (WR4).

The Project site is mapped as a Marine Water Recharge Area (MWRA) to Wild Harbor, a nitrogen sensitive embayment, and a Potential Public Water Supply Area (PPWSA).

For projects proposed in a PPWSA, site wide nitrogen loading concentrations must be less than 1 part per million (ppm) and no use, storage, or disposal of hazardous materials is allowed, except for household quantities. In PPWSAs, to be consistent with the WR1, applicants should reduce the amount of impervious surface and limit new disturbance where possible.

Because the Project is located in a MWRA, Objective WR3 is applicable. Wild Harbor is a nitrogen impaired embayment which means the Project should not result in additional nitrogen loading to the embayment. Nitrogen loading from stormwater must be calculated, and if the Project will result in additional nitrogen loading, the Applicant must propose ways to reduce and/or mitigate any nitrogen loading to ensure compliance with WR3.

The proposed project will result in 9,900 square feet of disturbance, including 3,000 sf of new impervious cover. Details about the grading for the equipment compound(s), what and how much material (gravel, concrete, etc.) will be used and where, and how runoff will be handled is required to review the Project for consistency with Objective WR4. The Application materials include a construction period erosion and sediment control plan. Additional drainage analysis should include information on how runoff will be managed post-construction, including whether any new nitrogen inputs are expected as a result of the Project.

Concerning the landscaping, staff suggest that utilizing native vegetation, informed by existing plants at the location could assist with stormwater runoff and infiltration.

Open Space

The Open Space Goal of the RPP is to conserve, preserve, or enhance a network of open space that contributes to the region's natural and community resources and systems. The following Open Space Objective is applicable and material to the Project:

- Protect or provide open space appropriate to context (OS3).

The monopole is proposed on an approximately 10.49-acre parcel that is partially developed with a church and associated parking on the southwestern portion of the parcel. The remainder of the parcel is undeveloped and appears to have been forested since at least 1938 based on a review of the Commission's Chronology Viewer. The undeveloped portion of the parcel is mapped Natural Areas Placetype due to the presence of wetlands and 100-foot wetland buffer. Staff notes the Project has been sited to avoid being within the 100-foot wetland buffer and, provided proposed erosion and sediment controls are installed and maintained during construction and the site is stabilized after construction, adverse impacts to the wetland are not anticipated.

The Applicant provided an existing condition plan that shows the area of proposed clearing as well as wetland delineation and vegetation information. As noted in the application regarding existing vegetation, the site consists of native species. The loss of these species contributes to the loss of forested habitat across the region as well as loss of the air and water filtering and carbon storing and sequestering services provided by the region's native forests. Staff recommend that the Applicant design the landscaping to retain and use as much native vegetation as possible. Staff also suggest that the Applicant perform tree clearing in the winter to avoid impacts to migratory birds and bats.

In the Project narrative, the Applicant has stated that the requirements of Objective OS3 are not applicable to the Project. The Board should consider whether this Objective is applicable, material, and regionally significant to the Project. The Applicant has not proposed a method for meeting the Open Space Objective.

The provision of open space is a requirement of all DRIs where new development is proposed. To avoid having to meet this requirement, the Applicant could locate the Project on an already developed area of the Property. If relocating the development is not feasible, the Applicant must meet the open space requirement.

According to the DRI Application, the disturbed area is 9,900 square feet. Projects in Suburban Development Areas Placetypes are required to provide high-quality open space in a ratio of one part open space per one part Area of Development Impact (ADI). To achieve consistency with Objective OS3, the Applicant may provide the required open space through permanent protection of 9,900 square feet of land or through cash contribution (as calculated by the method described in the Open Space Technical Bulletin). The current cash contribution value for open space mitigation in the Town of Falmouth is \$92,256 per acre. As the Project proposes to disturb 0.23 acres, the required open space cash contribution would be \$21,219.

Capital Facilities & Infrastructure

The Capital Facilities & Infrastructure Goal of the RPP is to guide the development of capital facilities and infrastructure necessary to meet the region's needs while protecting regional resources. The following Capital Facilities & Infrastructure Objective is applicable and material to the Project:

- Coordinate the siting of capital facilities and infrastructure to enhance the efficient provision of services and facilities that respond to the needs of the region (CAP2).

Wireless network connectivity is influenced by many factors, including proximity to a cell site, physical obstacles, signal interference, severe weather, topographical features, or large structures or other objects between a phone and the nearest cell site.

The Applicant suggests that the tower is necessary to address a potential gap in wireless coverage and identified the proposed site as the only feasible location to close the potential gap. Provided such gap has been verified, the Project would improve cellular coverage in Falmouth for Verizon customers and includes space for up to three additional carriers.

Based on the information provided in the DRI Application, the proposed tower is infrastructure that would improve cellular service in the area of the proposed site in response to the needs of the region, and thus staff suggests the Project is consistent with Objective CAP2.

Other DRI Standards of Review

Consistency with Technical Bulletin 97-001: Guidelines for DRI Review of Wireless Communication Towers (Revised September 2010)

Commission staff direct applicants to Technical Bulletin 97-001 for guidance on location and design of wireless towers. The Commission has retained Isotrope Wireless, LLC ("Isotrope") as its wireless technical consultant to review the Project relative to, among other things, consistency with these guidelines.

Detailed analysis as to the Project's consistency with Technical Bulletin 97-001 can be found in Isotrope's report, which is attached to this staff report.

Consistency with applicable Municipal Development Ordinances/Bylaws (including DCPC implementing regulations)

The Project is located in the Single Residence B (RB) Zoning District. Section 240-6.6B of the Town's Zoning Ordinance provides that television or radio antennas exceeding 50 feet above ground are a Special Permit use in the RB district, to be granted by the Falmouth Zoning Board of Appeals.

No DCPC implementing regulations apply to the Project.

EXHIBIT A

ISOTROPE WIRELESS – REVIEW OF APPLICANT’S DEVELOPMENT OF REGIONAL IMPACT
APPLICATION, DATED OCTOBER 3, 2024



Thinking outside the sphere

Review of Application for DRI: New Tower at 481 Quaker Road, Falmouth MA

June 26, 2024

Vertex Tower (Applicant) proposes a 120-ft monopole tower at 481 Quaker Road for Development of Regional Impact (DRI) approval by the Cape Cod Commission (Commission). It would be a new structure.

Summary

The application materials are mostly complete and describe a proposed facility that has a design familiar to the Commission. From a wireless communications perspective, the proposed design raises no red flags on topics such as radio energy safety, facility size and capacity.

The application includes information provided by C-Squared Systems on behalf of Verizon Wireless depicting predicted existing and proposed coverage at 700 MHz and 2100 MHz, as well as measured coverage data (drive data) in the area of the proposed monopole, in order to demonstrate the need for the site (for Verizon Wireless). The application also includes a report and plots by Jose Hernandez for Vertex showing the required height analysis at 700 MHz, 1900 MHz and 2100 MHz for 10 foot increments from 115' to 85'.

Application questions:

1. It appears that Section 1 of the application is incorrect, it's for the previous Vertex monopole application in Falmouth.
2. In Section 6, on Page 16 and again on page 20, the overall height is referenced as 130 feet, but all other references in the application are to 120 feet overall height.

Application Requirements:

The DRI Review requirements state, by section (summarized):

1. Demonstration of a coverage and/or capacity problem requiring a solution

As mentioned in the summary, above, the application includes information in Section 9 from C-Squared Systems on behalf of Verizon Wireless to demonstrate the need for the proposed facility. There are several prediction plots and 2 plots of drive data, collected November 7, 2023. This



information as presented, is a bit confusing. The prediction plots (Attachments A and B) show 3 Small Cell locations to the West of the proposed site. The coverage provided by these Small Cells does not appear to have been included in the predictive plots, as there are areas very nearby the Small Cell locations to the NW that show no coverage where coverage should be expected from these 2 small Cells. This showing appears to be consistent with the label “(Macro-sites)”. However, on the measured “drive data” from November 2023, the area around the Small Cell to the NNW near Birch Lane appears to be quite well covered for 700 MHz but not for 2100 MHz. Google’s mapping from July 2024 shows that this Small Cell has been installed.



On the other hand, the Small Cell to the WNW nearer Buzzard’s Bay does not appear to be active on the drive data, and cannot be located on Googlemaps. The question, therefore, is whether Verizon was active on any of these small cells in November 2023, is currently or planned to be in the future? If so, is the coverage included in the measured or predicted plots?

Turning to a broader analysis, the area referenced in the report as the area of need is:

“Specifically, Verizon Wireless determined that much of North Falmouth is without reliable service in the following areas and town roads, including but not limited to:



- Route 28A;
- Quaker Road;
- the area generally located in North Falmouth between New Silver Beach village and Old Silver Beach
- The surrounding roads, neighborhoods, businesses, and shopping areas in the proximity of the proposed site.”

Route 28A shows two small areas on the drive data plot as not meeting Verizon’s standard (at 700 MHz). One is due east of Wing Pond and one is due east of Curley Boulevard. The area east of Wing Pond is predicted to be covered by the proposed site at both 700 and 2100 MHz, however the area east of Curley Boulevard is not predicted to be improved for Verizon by this proposal.

Quaker Road appears to be quite well covered at 700 MHz from the drive data.

The area between New Silver Beach and Old Silver Beach seems to also be well covered where driven, at 700 MHz.

Coverage at 2100 MHz is shown as weak over quite a lot of the area, in the measured data, but it should be noted that the coverage from the 2 existing (177’ RC) sites falls below standard in a mile or less in the drive data at 2100 MHz, indicating that the area in the plot which is roughly 5x4 miles would require 6 or 7 additional sites to cover comprehensively at 2100 MHz.

In summary, we request further clarification on Verizon’s use of Small Cells in this area, as well as the bands deployed at, and coverage of these Small Cells (if used) – both during the drive in November 2023 and today.

There is also reference to a capacity concern in the area, but reference is made only to potential customers (population, employees in the area), not to actual customers, actual capacity, or actual usage on the network, so this information is not compelling or useful.

Further information is necessary to validate and quantify Verizon’s claim of a gap in coverage or capacity concern.

2. Demonstration that all existing structures have been identified and fairly rejected

Included and noted, although as above, coverage from the Small Cells NW of the proposed site appears to be missing. There is a listing of 27 other locations that were investigated, in the report from Mr. Gill of Vertex Towers.

3. Demonstration that proposed location and height will solve (the) problem

This was included in Mr. Hernandez’s report but more information is required to delineate the area of need for Verizon (as above) before this can be analyzed.



- 4. Demonstration that proposed height is minimum necessary to achieve coverage of target area.**
- 5. Demonstration of visual impact of proposed new structure.**

Included and noted. The location does appear to be well chosen for minimum visual impact as the photosimulations and balloon photos show minimal visibility other than on or near church property. This area of Falmouth has dense tree cover near the road which is beneficial from a visibility perspective.

- 6. Demonstration of Camouflaged Siting and Design Features**

Included. This site does appear to be screened from public view to the extent possible (by site selection) by the surrounding vegetation.

- 7. Demonstration of Co-Location Capability**

Included. The site appears to be designed for a total of 4 carriers to collocate in the future. (Verizon + 3 additional carriers)

- 8. Radiofrequency Radiation (RFR) Filing Requirements**

The radio frequency energy safety analysis confirms the facility would be compliant with the FCC requirements, which is the extent to which the placement of the facility on this basis can be controlled. The analysis only includes Verizon and therefore, any future carrier tenants will need to provide their own safety analysis, including any existing carriers (Verizon initially) and their proposed operation in aggregate. The carriers' final designs of their facilities, in combination with the other carriers on site, are required to be always compliant under the terms of their FCC licenses.

- 9. Hazardous Materials Filing Requirements**

Included in Narrative, Page 11 – no Hazardous materials will be on site.

- 10. Noise Filing Requirements**

Included. Cut sheets of a Kohler Propane Generator have been included and the applicant is requesting a waiver from the requirement to do an existing and existing + proposed noise measurement at this time.

Conclusion:

The applicant has addressed most sections of the DRI review requirements, as listed above.

This concludes our initial review of the application.

Michael Lawton