

# TRANSPORTATION IMPACT ASSESSMENT SCOPE OF WORK

## PROPOSED MULTIFAMILY RESIDENTIAL COMMUNITY 61 BEACH ROAD – TISBURY, MASSACHUSETTS Final 4/29/2019

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### 1.0 Initial Investigations

- Review previous studies of the area, including studies by other consultants, the state, regional planning agencies, and the local community.
- Evaluate local and state requirements, and review the history and previous efforts, if any, at the site and adjacent properties.
- Visit the site to update available information and observe factors that can affect access, circulation and the selection of potential improvement strategies.
- Consult with local and state officials to review permitting procedures, submission requirements and design standards.

### 2.0 Transportation Impact Assessment (TIA)

The scope of the Transportation Impact Assessment (TIA) shall consist of the following tasks:

- Gather physical and operating information for area roadways which will include:
  - Traffic volumes, including bicycle and pedestrian counts
  - Roadway geometrics
  - Traffic operating parameters
  - Speed limits
  - Sight distance measurements
  - Pedestrian and bicycle facilities
  - Public transportation services
- Complete the following data collection effort during the peak summer season (defined as July through the 3<sup>rd</sup> week of August) and off-peak season (March/April). July/August peak traffic volumes may be estimated using March/April 2019 counts and then adjusting to peak using Cape Cod Commission data and other factors. Estimations will be verified using August 2019 counts taken by the Commission and applicant.
  - Collect 48-hour (two consecutive weekdays) vehicle volumes, classifications, and speeds using automatic traffic recorders (ATRs) on Beach Road and Lagoon Road in the vicinity of the project site in order to evaluate traffic volumes and vehicle travel speeds along these roadways over an extended period.
  - Obtain manual turning-movement and vehicle classification counts for a two-hour weekday morning period (7:00 to 9:00 AM), a three-hour weekday midday period (11:00 AM to 2:00 PM), a two-hour weekday evening period (4:00 to 6:00 PM) and a three-hour Saturday midday period (11:00 AM to 2:00 PM) at the following intersections:

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1. Beach Street at Beach Street Extension, Beach Road, Water Street, Lagoon Pond Road (Five-Corners)
  2. State Road at Beach Street and Main Street
  3. State Road at Causeway Road
  4. Causeway Road at Skiff Avenue
  5. Dunham Avenue at Skiff Avenue
  6. State Road at Look Street and Edgartown-Vineyard Haven Road
  7. Edgartown-Vineyard Haven Road at Skiff Avenue and Cook Road
  8. Edgartown-Vineyard Haven Road at Cromwell Street (South of Skiff Ave.)
  9. Lagoon Pond Road at Skiff Avenue
- Complete an inventory of available public transportation services and service routes within the study area.
  - Obtain bike/ped crashes as well as motor vehicle crash data for the study area roadways and intersections for the most recent three-year period available (2014 through 2016 or 2015 through 2017 (if available)) from MassDOT and the Tisbury Police Department. Detailed crash rate calculations will be performed for each of the study intersections.
  - Estimate future No-Build traffic volumes from historic traffic counts and from information on recently approved or proposed projects. Increases in background traffic growth will then be established and applied to the existing traffic-flow networks to develop the base future No-Build analysis networks. The future conditions horizon year shall be established as a 7-year projection from the base year (existing condition) in accordance with MassDOT guidelines.
  - Estimate traffic generated by the project based on trip-generation data available from the Institute of Transportation Engineers (ITE)<sup>1</sup> or other appropriate source for each analysis period (average weekday and weekday morning and evening peak hours). Traffic volumes expected to be generated by the project will be added to the future No-Build traffic volumes to establish the Build condition traffic volumes and will reflect the diversion of traffic that may result from the establishment of a connection through the project site between Beach Road and Lagoon Pond Road.
  - Assess volume-to-capacity ratios, level of service, and vehicle queuing for existing and future conditions under both average and peak-month conditions at the study area intersections and project driveway(s). The traffic analysis will be based on the existing street system and any planned roadway improvements. The extent and nature of any system deficiencies will also be identified. The analysis will be formatted using the accepted Highway Capacity Manual (HCM)<sup>2</sup> methodology and associated software. The following analysis conditions will be examined:

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<sup>1</sup>*Trip Generation*, 10<sup>th</sup> Edition; Institute of Transportation Engineers; Washington, DC; 2017.

<sup>2</sup>*Highway Capacity Manual*, National Academy of Sciences, Transportation Research Board; Washington, D.C.; 2010.

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- Existing conditions – 2019
  - Future conditions without the proposed project (No-Build condition) – 2026
  - Future conditions with the proposed project (Build condition) – 2026 unmitigated
  - Future conditions with the proposed project (Build condition) – 2026 mitigated
  
  - Future conditions with the proposed connector road from Beach Road to Lagoon Pond Road
  - Future conditions without the proposed connector road from Beach Road to Lagoon Pond Road
  
  - Perform sight distance measurements at the site driveway intersection(s) in accordance with American Association of State Highway and Transportation Officials (AASHTO)<sup>3</sup> standards. Recommendations will be made as necessary in order to provide the required lines of sight.
  
  - Assess the parking demands for the project using parking demand data obtained from the Urban Land Institute (ULI),<sup>4</sup> the Institute of Transportation Engineers (ITE),<sup>5</sup> the local zoning ordinance, or other appropriate source. The overall peak parking demand will be identified for the project and will be compared to the local zoning requirements for parking and the proposed parking supply. Where a parking shortfall is identified, a parking management plan will be developed in order to reduce the projected parking deficit.
  
  - Define at a conceptual level off-site transportation infrastructure improvements that may be necessary to: i) provide safe and efficient access to the project; ii) address current deficiencies; and iii) accommodate project-related traffic (motor vehicles, pedestrians and bicyclists, as appropriate). Specific areas to be addressed will include: pedestrian and bicycle accommodations, accessibility and connectivity; traffic control devices (signs, pavement markings, etc.); lighting; and overall safety for all roadway users (i.e., pedestrians, bicyclists, motor vehicles and public transit users).
  
  - Develop the framework of a Transportation Demand Management (TDM) program for the project that will include specific measures that are designed to encourage the use of alternative modes of transportation to single occupant vehicles (i.e., public transportation, walking, bicycling and car/vanpooling).
  
  - Analysis of ridership impacts to the VTA including mode splits (ped/bike trips).
  
  - Prepare a report summarizing the results of the analysis and the associated findings and recommendations for submission in support of the project approval process.

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<sup>3</sup>*A Policy on Geometric Design of Highway and Streets*, 7<sup>th</sup> Edition; American Association of State Highway and Transportation Officials (AASHTO); 2018.

<sup>4</sup>*Shared Parking*, Second Edition; Urban Land Institute; Washington, D.C.; 2005.

<sup>5</sup>*Parking Generation*, 4<sup>th</sup> Edition; Institute of Transportation Engineers; Washington, D.C.; 2010.

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- The applicant shall apply for proceed through the process and receive any state or local permits necessary for development of the project roadways prior to the site plan receiving final town approval. Any improvements shall be designed and constructed prior to certification of occupancy.