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November 8, 2021

Mr. EJ Lanni
The HUS Companies
2 Charles Street
Providence, RI 02904

Re: **Maritime Haven-Traffic**
36, 42, 48 Robinwood Road
Wareham, Massachusetts
Pare Project No.: 21209.00

Dear Mr. Lanni:

Pare Corporation (Pare) has completed a preliminary investigation into the potential impact on the traffic conditions on the surrounding roadway network due to a proposed seven lot residential subdivision located at 36, 42 and 48 Robinwood Road in Wareham, Massachusetts.

Existing/Proposed Conditions

The overall development is proposed to be a seven-lot residential subdivision. The entire plot of land to be developed on encompasses 36, 42 and 48 Robinwood Drive, currently denoted as private property. Access to the site will be provided by a single, two-way dead-end street from Robinwood Drive, spanning approximately 650 feet east.

Robinwood Road is a dead-end, local road that is approximately 3,750 feet long. The roadway terminates at its south end near Sias Point and borders Pleasant Harbor at its west. Approximately 3,000 feet south of the intersection with Onset Avenue, Robinwood Drive becomes private property and trespassing is prohibited according to posted signage. Robinwood Road cuts through other local roads along Buzzards Bay and is predominantly occupied by single-family residential homes. Near the proposed site entrance, there is no striping to indicate travel lanes or curbing. Very little vehicular volume was observed along the roadway during site observations. The posted speed limit north of the site is 20 miles per hour.

Forest Street is a local road, approximately 540 feet in length and intersects Robinwood Road, slightly north of the proposed site driveway. Similar to Robinwood Road, Forest Street is occupied exclusively by residential properties. No striping or curbing is present along the street, while having a width of only 11 feet for travel in both directions. Very little vehicular volume was observed along the roadway during site observations. No posted speed limit was found on the roadway, and signage indicating the street name at the intersection with Robinwood Road is absent.

The intersection that is anticipated to be the most significantly impacted by the site development is Robinwood Road at Onset Avenue. This intersection is a 3-way stopped control intersection with Robinwood Road being the stop-controlled approach. Robinwood Road runs in the general north/south direction, while Onset Avenue runs in the general east/west direction. Robinwood Road has a curb-to-curb width of approximately 20 feet at the intersection, with no striping to designate travel lanes or intended curbing. Onset Avenue has a curb-to-





curb width of 25 feet, with a 4.5-foot-wide sidewalk on the northern

side of the road. A double-yellow center line is the only markings present on Onset Avenue near its intersection with Robinwood Road. The travel lane for eastbound traffic is 13 feet wide, while the travel lane for westbound travel is 12 feet wide. Traffic for the intersection is predominantly through traffic on Onset Avenue while very little traffic is observed from the stop-controlled approach of Robinwood Road. The posted speed limit for Onset Avenue is 35 miles per hour.

Data Collection

A field review of the study area was conducted with geometric measurements, observation of traffic operations and other field observations recorded along the roadways and at the proposed Robinwood Road and Site Driveway intersection. The information obtained was used in understanding the operations of the study area roadways and intersections.

Trip Generation

Trip generation for the proposed development was completed using the industry standard *Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition*. The Trip Generation Manual provides traffic generation information for various land uses compiled from studies conducted by members nationwide. The proposed development trips were calculated using *Land Use Code (LUC) 210: Single-Family Detached Housing* which is representative of residential home constructed on an individual lot in a typical site surveyed as a suburban subdivision.

A summary of the trips generated from the ITE Trip Generation Manual for the proposed development is provided in Table 1 below. Anticipated generated trips for an average weekday, weekday morning peak hour and weekday afternoon peak hour are provided.

Table 1: Trip Generation Summary

		Weekday	AM Peak	PM Peak
Proposed Residential Subdivision LUC 210 – Single Family Home	Entering	43	3	6
	Exiting	44	9	3
	Total	87	12	9

The estimated trip generation from the proposed development is anticipated to amount to one trip approximately every five minutes in the morning peak hour, one trip approximately every seven minutes in the afternoon peak hour. Given the low trip generation from the site and the lack of existing traffic on Robinwood Road, it is not anticipated that the construction of the homes would impact the surrounding traffic network in a notable way. With few major roadways in the vicinity of the site, it is expected that surrounding intersections and roadways would operate in the same manner as they do in the current conditions after the construction of the development.



Traffic Safety Analysis

As part of the safety analysis, a sight distance analysis was performed at the location of the proposed Robinwood Road and Site Driveway intersection. Sight distance measurements obtained were compared to the calculated stopping sight distance (SSD). SSD is defined as the distance required for a vehicle traveling at the design speed of the roadway to safely come to a complete stop. It is a combination of the distance traversed while reacting to roadway obstacles, and the distance traversed once the brakes are applied.

The posted speed limit of Robinwood Road is 20 miles per hour. Based on field observations, vehicles tend to drive considerably slower than this posted speed, typically around 10 miles per hour. This is most likely due to the narrow roadway width of 16 feet making drivers feel uneasy. To provide a conservative analysis, the posted speed limit was used for all analysis calculations instead of the observed speed.

According to the American Association of State Highway and Transportation Officials (AASHTO) publication *A Policy on the Geometric Design of Highways and Streets, Seventh Edition 2018*, the minimum safe stopping sight distance for a 20 mile per hour design speed is 115 feet. A summary of the sight distances available for the proposed movements from Robinwood Road at the site driveway can be seen in Table 2.

Table 2: Sight Distance Summary

		Required SSD (ft)	Measured SSD (ft)
Robinwood Road at Site Driveway	To the North	115	235
	To the South	115	270

Horizontal curvature along Robinwood Drive to the north and south of the proposed driveway that limits driver sight lines to 270 feet looking to the left and 235 feet looking to the north. However, these distances are well in excess of the distances required for oncoming vehicles to avoid a collision with an exiting vehicle.

Conclusions

Based on the review of the site location and the analyses performed for developing trip generation and sight distance, the following conclusions can be made regarding the proposed seven-lot residential subdivision located at 36, 42 and 48 Robinwood Road in Wareham, Massachusetts.

- The projected traffic volumes for a seven-lot residential subdivision will generate a small amount of traffic during the peak hours and throughout the day. With the trips anticipated to be generated and with the distribution of traffic into the roadway system, it is anticipated that the development of the site will have no significant impacts to the traffic capacity or delays on any of the surrounding roadways and intersections.



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- Based on field observations and analysis of the sight distance, Pare is of the opinion that with the proposed building layout, proper sight distance can be maintained for safe access in and out of the proposed development. As mentioned prior, the relatively low volume of traffic being generated from the site is not expected to result in detrimental safety impacts in the area.

In summary, we are of the opinion that the proposed development will not have any significant impact to the capacity and safety of the roadway network. We are available to discuss our findings at your convenience. Please feel free to contact me if you have any questions or need additional information.

Sincerely,

Derek L. Hug, P.E., PTOE
Managing Engineer

DH/cls