Vanasse & Associates inc
Transportation Engineers & Planners

35 New England Business Center Drive
Suite 140
Andover, MA 01810

Ref: 8685

November 11, 2020

Mr. Larry Smith
Managing Director
Restoration Capital
P.O. Box 1044
Sudbury, MA 01776

Re: Updated Sight Distance Assessment
The Village at Shepley Hill - Longley Road and Sand Hill Road
Groton, Massachusetts

Dear Larry:

Vanasse & Associates, Inc. (VAI) has completed an updated sight distance assessment as an amendment to the September 2020 *Transportation Impact Assessment* (the "September 2020 TIA") that was prepared in support of The Village at Shepley Hill age-qualified residential community to be located off Longley Road and Sand Hill Road in Groton, Massachusetts (hereafter referred to as the Project). Specifically, we have updated the sight distance assessment for the Sand Hill Road access to the Project site to reflect the relocation of the access approximately 200 feet east of the location that was evaluated in the September 2020 TIA.

Sight distance measurements were performed at the relocated Project site roadway intersection with Sand Hill Road in accordance with American Association of State Highway and Transportation Officials (AASHTO)[1] standards. Both stopping sight distance (SSD) and intersection sight distance (ISD) measurements were performed. In brief, SSD is the distance required by a vehicle traveling at the design speed of a roadway, on wet pavement, to stop prior to striking an object in its travel path. ISD or corner sight distance (CSD) is the sight distance required by a driver entering or crossing an intersecting roadway to perceive an on-coming vehicle and safely complete a turning or crossing maneuver with on-coming traffic. In accordance with AASHTO standards, if the measured ISD is at least equal to the required SSD value for the appropriate design speed, the intersection can operate in a safe manner. Table 10R presents the measured SSD and ISD at the subject intersection, and amends the information that was presented in Table 10 of the September 2020 TIA for the Sand Hill Road Project site roadway.

[1] *A Policy on Geometric Design of Highway and Streets,* 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); Washington D.C.; 2018.

Table 10R
SIGHT DISTANCE MEASUREMENTS[a]

Intersection/Sight Distance Measurement	Feet		
	Required Minimum (SSD)	ISD[b]	Measured
Sand Hill Road at the Project Site Roadway			
Stopping Sight Distance:			
Sand Hill Road approaching from the east	250	--	400+
Sand Hill Road approaching from the west	260	--	350+[c]
Intersection Sight Distance:			
Looking to the east from the Project site roadway	250	390	400+
Looking to the west from the Project site roadway	260	345	350+[c]

[a]Recommended minimum values obtained from *A Policy on Geometric Design of Highways and Streets,* 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); 2018; and based on the following approach speeds: 35 mph approaching from the east (westbound) along Sand Hill Road; 36 mph approaching from the west (eastbound) along Sand Hill Road.

[b]Values shown are the intersection sight distance for a vehicle turning left or right exiting a roadway under STOP control such that motorists approaching the intersection on the major street should not need to adjust their travel speed to less than 70 percent of their initial approach speed.

[c]Available sight distance with the selective trimming/removal of trees and vegetation located within the sight triangle areas and the regrading of the embankment to the east of the Project site roadway along the south side of Sand Hill Road.

As can be seen in Table 10R and consistent with the findings of the September 2020 TIA, with the selective trimming or removal of trees and vegetation located along Sand Hill Road within the sight triangle areas of the Project site roadway and the regrading of the existing embankment to the east of the Project site roadway along the south side of Sand Hill Road, the available lines of sight to and from the Project site roadway intersection with Sand Hill Road were found to meet or exceed the recommended minimum sight distances to function in a safe (SSD) and efficient (ISD) manner based on the measured 85th percentile travel speed along Sand Hill Road (34/36 mph), which were found to be 4 to 6 mph above the posted speed limit in this area (30 mph).

If you should have any questions regarding the updated sight distance assessment, please feel free to contact me.

Sincerely,

VANASSE & ASSOCIATES, INC.

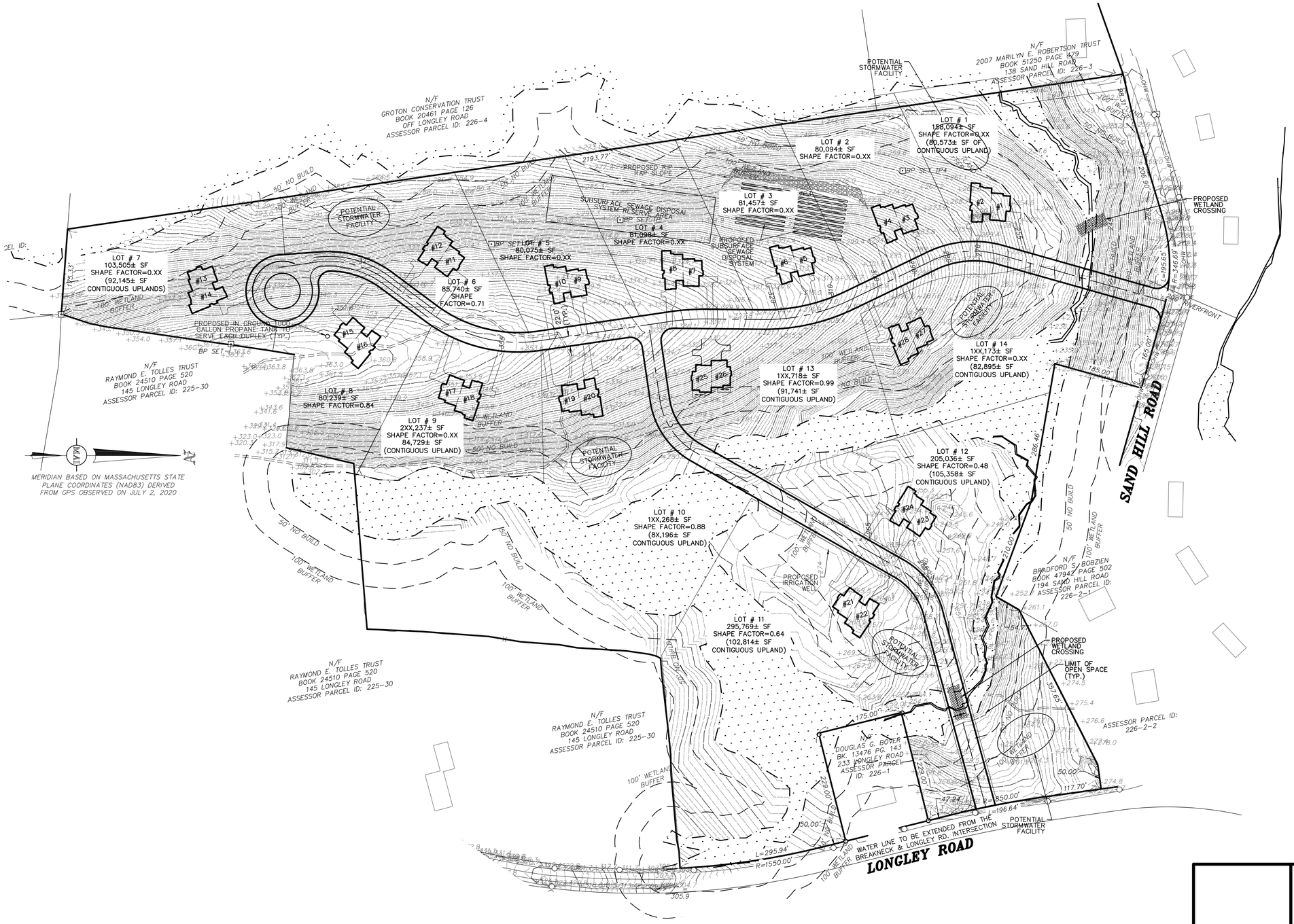
Jeffrey S. Dirk

Jeffrey S. Dirk, P.E., PTOE, FITE
Managing Partner

Professional Engineer in CT, MA, ME, NH, RI and VA

JSD/jsd

cc: File



LEGEND

- BORDERING VEGETATED WETLANDS
- WETLAND BUFFER ZONES
- PROPOSED WETLAND CROSSING
- EXISTING CONTOUR
- LIMIT OF OPEN SPACE

GRAPHIC SCALE
SCALE: 1"=100'
50 0 50 100 200 400

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHK'D
1	10/5/20	PLANNING BOARD COMMENTS	DG	CEW

DWG. No. 6332_SITE

THE VILLAGE AT SHEPLEY HILL

PRELIMINARY SUBDIVISION PLAN

LOCATED IN

GROTON, MASSACHUSETTS
(MIDDLESEX COUNTY)

PREPARED FOR (APPLICANT):
SHEPLEY HILL CAPITAL PARTNERS LLC

SCALE: 1"= 100' DATE: AUGUST 28, 2020

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SHEET No. 2 OF 2 PROJECT No. 6332