

MEMORANDUM

To: Ted Merchant
From: Jeffrey T. Bandini, P.E., PTOE
Date: December 12, 2023
RE: Traffic Assessment
The Regency at Lynnfield Senior Housing Development
1301 Main Street, Lynnfield, MA

McMahon, a Bowman company (Bowman) has completed an updated traffic assessment for the proposed Regency at Lynnfield Senior Housing Development, herein referred to as "the Project" to be located at 1301 Main Street in Lynnfield, Massachusetts. This assessment updates information provided in the traffic assessment provided by Bowman dated July 21, 2023.

The updated traffic assessment outlines the project description, site access and circulation, adjacent roadway network, traffic volumes, crash summary, and trip generation associated with the Project based on the Overall Site Plan (C-4) prepared by The Morin-Cameron Group, Inc. dated November 30, 2023. The Overall Site Plan is provided as an attachment.

Project Description

The proposed Project would include the construction of a 66-unit senior housing development, including a club house and a pool at 1301 Main Street. The Project site consists of undeveloped land and the driving range associated with the existing Sagamore Spring Golf Club. The existing driving range would be removed as part of the development, and the existing golf course would remain operational. The Project site location is shown in Figure 1.

Site Access and Circulation

Access to the Project would be provided via the proposed Road A to be located on the east side of Main Street, approximately 600 feet north of the existing Sagamore Spring Golf Club driveway. Road A would terminate at Road B approximately 715 feet east of Main Street and would provide access to a clubhouse, pool, and three residential units. Road A would terminate at proposed Road B at its midpoint, and Road B would provide access to nine units total, including a cul-de-sac at the northerly end and intersect Road A2 at the southerly end. Road A2 would provide access to 29 units total, with a cul-de-sac at the westerly end and would continue eastward. Road C would intersect Road A2 to the southeast, and provide access to 11 units, and Road D would intersect Road A2 on its east side, north of Road C, and would provide access to 11 units. Road E would intersect Road A2 on its east side north of Road D and would provide access to three units. Road C, Road D, and Road E would all terminate as cul-de-sacs. Road A2 would continue northward where it would meet Friendship Lane which would be used for emergency access only, and no through traffic to Friendship Lane would be provided. Sidewalks would be provided internally throughout the site and would connect to the existing sidewalk on the east side of Main Street.

Each unit would have one driveway, and an additional 13 parking spaces on the north side of Road A would be provided adjacent to the club house and pool, located at the main entrance of the development. The clubhouse and pool would be for resident use only.

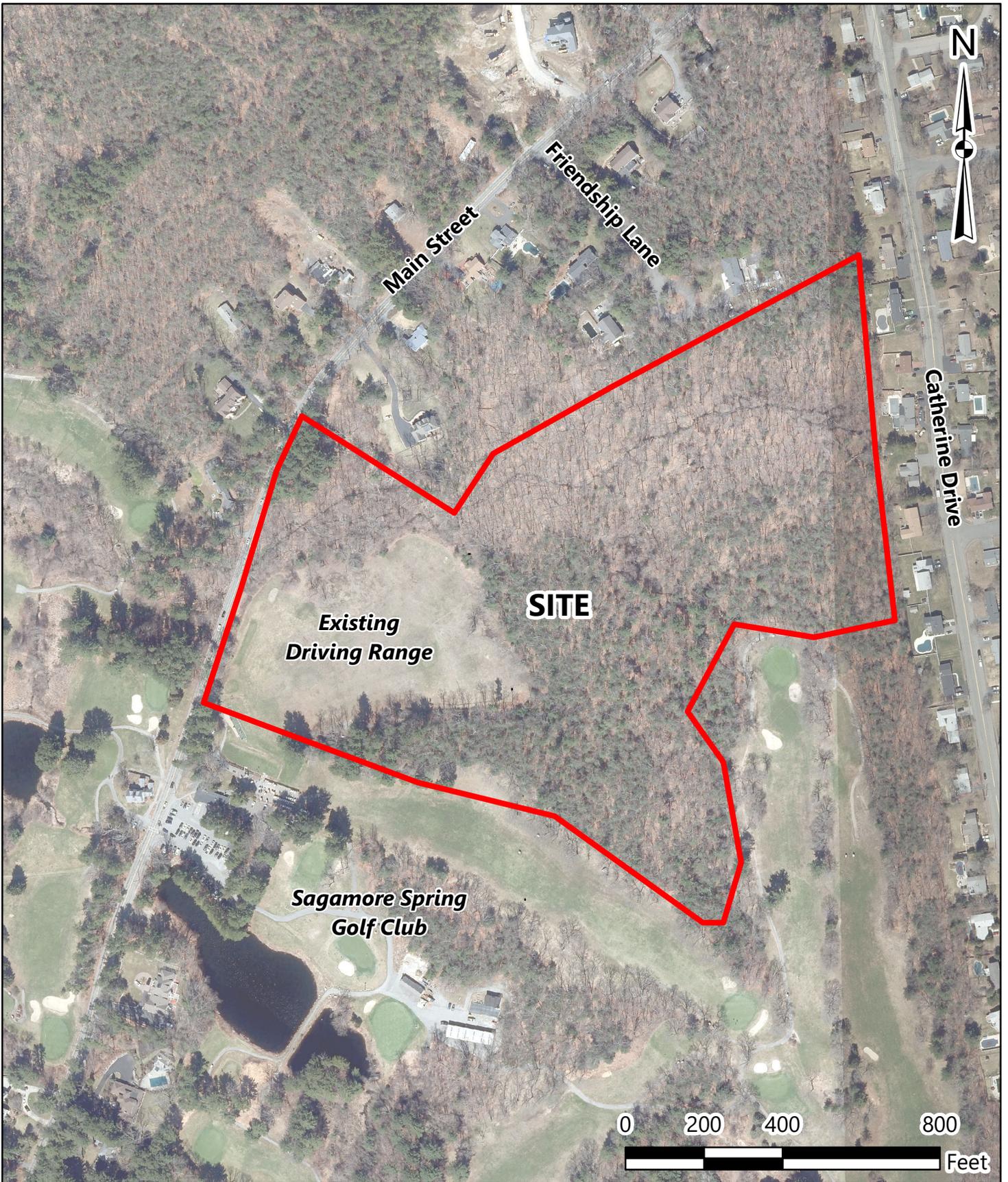


Figure 1
Site Location Map
Proposed Senior Housing Development
Lynnfield, Massachusetts

Adjacent Roadway Network

Main Street is classified as an urban minor arterial under the Town of Lynnfield jurisdiction and runs in a general north-south direction providing access to commercial and residential land uses. Main Street generally provides one 14-foot-wide travel lane in each direction. An approximately five-foot-wide sidewalk is provided on the east side (site side) of Main Street. The posted speed limit on Main Street in the vicinity of the site is 25 miles per hour (mph).

Traffic Volumes

Automatic traffic recorder (ATR) data was obtained on Main Street in the vicinity of the proposed Road A for a 24-hour period on Tuesday, November 21, 2023.

To account for seasonal variation in traffic volumes, the Massachusetts Department of Transportation (MassDOT) 2019 Weekday Seasonal Adjustment Factors were reviewed. Based on the seasonal adjustment factors, traffic volumes collected in November are slightly higher than the average month. Therefore, to present a conservative analysis, the November volumes were not reduced to reflect average month conditions.

The ATR summary is summarized in Table 1.

Table 1: ATR Summary

		Weekday ADT¹	AM Peak² (vph)	Midday Peak³ (vph)	PM Peak⁴ (vph)	Vehicle Speeds⁵ (mph)
Main Street, vicinity of Proposed Road A	Northbound	3,340	162	237	328	39
	Southbound	<u>3,220</u>	<u>252</u>	<u>223</u>	<u>243</u>	39
	TOTAL	6,560	414	460	571	

(1) Average Daily Traffic based on ATR conducted on November 21, 2023.

(2) Weekday morning peak hour volumes occurred between 8:00 AM - 9:00 AM.

(3) Weekday midday peak hour volumes occurred between 12:00 PM - 1:00 PM.

(4) Weekday afternoon peak hour volumes occurred between 3:30 PM - 4:30 PM.

(5) Based on 85th percentile speeds.

As shown in Table 1, the average daily traffic (ADT) on Main Street in the vicinity of the proposed Road A is approximately 6,560 vehicles (3,340 northbound vehicles and 3,220 southbound vehicles) on a typical weekday. The weekday morning peak hour was recorded to have 414 vehicles (162 northbound vehicles and 252 southbound vehicles). The weekday midday peak hour was recorded to have 460 vehicles (237 northbound vehicles and 223 southbound vehicles). The weekday afternoon peak hour was recorded to have 571 vehicles (328 northbound vehicles and 243 southbound vehicles). The 85th percentile speeds on Main Street were measured to be 39 mph in both the northbound and southbound directions. The ATR and speed data are included as attachments.

The updated ADT is slightly lower than the ADT from July 2023 due to fluctuations in traffic patterns; however, as stated previously, November traffic volumes are slightly higher than the average month. Therefore, the ADT is still conservative as compared to the average month.

Crash Summary

Crash data on Main Street in the vicinity of the proposed Road A was obtained from MassDOT for the most recent five-year period available, from 2016 through 2020. That MassDOT data indicates that there were no reported crashes on Main Street in the vicinity of the proposed Road A over the five-year period analyzed.

Trip Generation

Vehicular trip generation estimates for the Project were established using available data from the Institute of Transportation Engineers (ITE) publication, *Trip Generation Manual, 11th Edition*. ITE is a national research organization of transportation professionals and *Trip Generation Manual, 11th Edition* provides traffic generation information for various land uses compiled from studies conducted by members nationwide. The trip generation estimates for the Project were developed based on data presented in the ITE publication for land use code (LUC) 251 (Senior Adult Housing – Single Family). The ITE data establishes vehicle trip rates (in this case expressed in trips per dwelling unit) based on actual traffic counts conducted at similar types of existing land uses. Table 2 below shows the summary of the vehicle trip estimates for the Project.

Table 2: Vehicular Trip Generation Summary

Description	Size	Weekday AM			Weekday PM			Saturday Midday		
		In	Out	Total	In	Out	Total	In	Out	Total
Proposed Residential Trips¹	66 units	23	31	54	41	32	73	11	11	22

¹ ITE Land Use Code 251 (Senior Adult Housing - Single Family), based on 66 dwelling units.

As shown in Table 2, the Project is estimated to result in approximately 54 vehicle trips (23 entering vehicles and 31 exiting vehicles) during the weekday morning peak hour, approximately 73 vehicle trips (41 entering vehicles and 32 exiting vehicles) during the weekday afternoon peak hour, and approximately 22 vehicle trips (11 entering vehicles and 11 exiting vehicles) during the Saturday midday peak hour.

Under existing site conditions, there are vehicle trips generated by the existing driving range that is being removed as part of the Project. To present a conservative review of the Project, no credit was taken for vehicle trips associated with the removal of the driving range.

Sight Distance

A field review of the available sight distance was conducted at the proposed Road A on Main Street. The American Association of State Highway and Transportation Officials (AASHTO) publication, *A Policy on Geometric Design, 2018 Edition*, defines minimum sight distances at intersections.

The minimum sight distance is based on the required stopping sight distance (SSD) for vehicles traveling along the main road. Table 3 summarizes the measured stopping sight distance at proposed Road A which was evaluated based on the 85th percentile operating speeds on Main Street. A sight distance graphic is provided in the attachments.

Table 3: Stopping Sight Distance Evaluation

Site Driveway Location	Approaching	Speed Limit (mph)	85th % Speed (mph)	SSD ¹ Required	SSD Measured	Meets Required SSD?
Main Street	Southbound	25	39	305	600+	Yes
at Proposed Road A	Northbound	25	39	300	365	Yes

¹ Stopping sight distance (see AASHTO equations 3-2 and 3-3) for the 85th percentile speeds.

As shown in Table 3, the available SSD at the proposed Road A intersection with Main Street exceeds the SSD requirements based on the 85th percentile speeds on Main Street. It is recommended that existing and proposed vegetation within the sightlines be maintained below 2.5-foot height to be clear of any obstructions.

Conclusion

The Project consists of the construction of a 66-unit senior housing development to be located at 1301 Main Street in Lynnfield. The Project site currently includes the driving range at the Sagamore Spring Golf Club, and undeveloped land just north of the golf course. Access to the Project would be provided via proposed Road A on the east side of Main Street, approximately 600 feet north of the existing driveway for the Sagamore Spring Golf Club. Friendship Lane would provide emergency access only through the cul-de-sac connecting to proposed Road A2. Internal roadways would be constructed to provide access to each single-family home, and each home would have a separate driveway. Additionally, 13 parking spaces would be provided at the clubhouse and pool, which would be located at the main entrance. The club house and pool would be utilized by residents only.

The project is estimated to generate approximately 54 vehicle trips (23 entering vehicles and 31 exiting vehicles) during the weekday morning peak hour, 73 vehicle trips (41 entering vehicles and 32 exiting vehicles) during the weekday afternoon peak hour, and 22 vehicle trips (11 entering vehicles and 11 exiting vehicles) during the Saturday midday peak hour.

Under existing site conditions, there are vehicle trips generated by the existing driving range that is being removed as part of the Project. To present a conservative review of the Project, no credit was taken for vehicle trips associated with the removal of the driving range.

The available SSD at the proposed Road A on Main Street exceeds the SSD requirements based on the 85th percentile speeds on Main Street. It is recommended that existing and proposed vegetation within the sightlines be maintained below 2.5-foot height to remove any obstructions.

Based on the evaluation documented within this traffic assessment, the Project is not anticipated to have a significant impact to adjacent roadway operations.

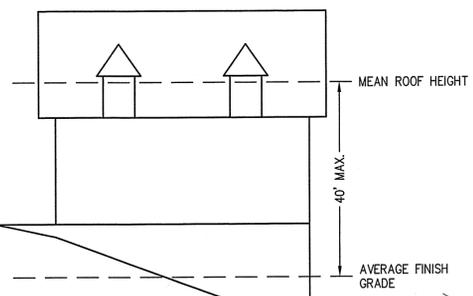
Attachments

- Overall Site Plan
- ATR and Speed Data
- Sight Distance Graphic

Attachments

Overall Site Plan

ZONING MATRIX			
	ELDERLY HOUSING DISTRICT (EH)	1301 MAIN STREET	
SETBACK	REQUIRED	EXISTING	PROPOSED
MIN. LOT AREA	4 ACRES	36.09 ACRES	NO CHANGE
MIN. LOT FRONTAGE	200 FT	802.56 FT	NO CHANGE
MAX. LOT COVERAGE	25%	0%	13.3%
MIN. FRONT YARD DEPTH	50 FT	N/A	230.6 FT
MIN. SIDE YARD WIDTH	25 FT	N/A	30.0 FT
MIN. REAR YARD DEPTH	30 FT	N/A	30.0 FT
MAX. BUILDING HEIGHT	40 FT	N/A	40 FT MAX.
MAX. BUILDING STORIES	3	N/A	< 3 STORIES



TYPICAL BUILDING HEIGHT DETAIL
(NOT TO SCALE)



PARKING TABLE	
USE	REQUIRED
ELDERLY HOUSING DISTRICT: 4 SPACES PER 3 UNITS	66 UNITS x (4 SPACES / 3 UNITS) = 88 SPACES
CLUBHOUSE: 1 SPACE PER 180 S.F. FLOOR AREA	2,298 S.F. x (1 SPACE / 180 S.F. FLOOR AREA) = 13 SPACES
TOTAL REQUIRED	101 SPACES
TOTAL PROVIDED	211 SPACES

PARKING SUMMARY:

CLUBHOUSE PARKING LOT = 13 SPACES (1 VAN SPACE PROVIDED)
 DWELLING GARAGES = 132 SPACES
 DWELLING DRIVEWAYS = 66 SPACES

TOTAL = 211 SPACES

GROUNDWATER PROTECTION DISTRICT:

LOT AREA = 1,572,217 S.F. (39.305 BUILDERS ACRES)

WASTEWATER FLOW

- TOTAL ALLOWABLE WASTEWATER FLOW = 35,905 ACRES * 440 GPD/ACRE = 17,294 GPD
- UP TO 10,000 GPD MAXIMUM
- PROP. WASTEWATER FLOW = 9,900 GPD

IMPERVIOUS COVERAGE (MAXIMUM 15% OF LOT)

- 1,572,217 S.F. x 0.15 = 235,832 S.F.
- IMPERVIOUS AREA (TOTAL) = 418,003 S.F.
- IMPERVIOUS AREA (RECHARGED) = 415,329 S.F.
- IMPERVIOUS AREA (UNMITIGATED) = 2,674 S.F. (<1%)

FLOOD ZONE NOTE:

THE SITE IS NOT LOCATED WITHIN A FLOOD HAZARD ZONE AS ILLUSTRATED ON THE FLOOD INSURANCE RATE MAP COMMUNITY PANEL NO. 25090C0391F WHICH HAS AN EFFECTIVE DATE OF JULY 3, 2012.

The Morin-Cameron GROUP, INC.

CIVIL ENGINEERS, ENVIRONMENTAL CONSULTANTS
 LAND SURVEYORS, LAND USE PLANNERS
 66 ELM STREET, DANVERS, MASSACHUSETTS 01923
 P: 978-777-8886, F: 978-777-8887, WWW.MORINCAMERON.COM



REVISIONS

NO.	DESCRIPTION	DATE

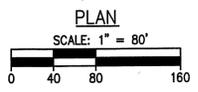
SURVEY BY: ESE
 DRAFTED BY: DAF
 CHECKED BY: SPC
 APPROVED BY: SPC
 SCALE: AS NOTED
 DATE: NOVEMBER 30, 2023

SITE DEVELOPMENT PLANS FOR THE REGENCY AT LYNNFIELD SENIOR HOUSING DEVELOPMENT

LOCATED AT
1301 MAIN STREET
 LYNNFIELD, MASSACHUSETTS
 (PORTION OF ASSESSOR'S MAP 13, PARCEL 1000)
 PREPARED FOR:
TOLL BROS., INC.

OVERALL SITE PLAN

DRAWING NO. **C-4**



ATR and Speed Data

Transportation Data Corporation

Mario Perone, mperone1@verizon.net
tel (781) 587-0086 cell (781) 439-4999

Main Street just north of
Sagamore Spring Country Club
City, State: Lynnfield, MA
Client: McM/L. Young

05790Aclass
Site Code: 313622.01

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/21/23	0	8	2	0	1	0	0	0	0	0	0	0	0	11
01:00	0	4	2	0	0	0	0	0	0	0	0	0	0	6
02:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	6	2	1	0	0	0	0	1	0	0	0	0	10
05:00	0	17	6	1	2	0	0	0	0	0	0	0	0	26
06:00	0	44	22	1	3	0	0	0	0	0	0	0	0	70
07:00	0	115	34	2	5	1	0	0	0	0	0	0	0	157
08:00	0	120	27	0	11	0	0	4	0	0	0	0	0	162
09:00	0	117	37	1	15	0	0	0	0	0	0	0	0	170
10:00	2	142	28	3	14	1	0	3	2	0	0	0	0	195
11:00	1	130	37	4	13	0	0	3	0	0	0	0	0	188
12 PM	1	169	50	1	10	3	1	1	1	0	0	0	0	237
13:00	1	185	36	0	15	0	1	1	0	0	0	0	0	239
14:00	4	184	55	0	16	2	0	1	1	0	0	0	0	263
15:00	5	232	60	1	14	0	0	0	0	0	0	0	0	312
16:00	4	216	55	0	13	0	0	2	0	0	0	0	0	290
17:00	3	236	50	0	7	0	0	2	0	0	0	0	0	298
18:00	1	192	37	0	4	0	0	0	1	0	0	0	0	235
19:00	0	126	28	0	3	0	0	0	0	0	0	0	0	157
20:00	0	105	20	0	2	0	0	0	0	0	0	0	0	127
21:00	1	66	14	0	4	0	0	0	0	0	0	0	0	85
22:00	0	58	3	0	0	0	0	0	0	0	0	0	0	61
23:00	1	25	0	0	0	0	0	0	0	0	0	0	0	26
Day Total	24	2508	605	15	152	7	2	17	6	0	0	0	0	3336
Percent	0.7%	75.2%	18.1%	0.4%	4.6%	0.2%	0.1%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	10:00	09:00	11:00	09:00	07:00		08:00	10:00					10:00
Vol.	2	142	37	4	15	1		4	2					195
PM Peak	15:00	17:00	15:00	12:00	14:00	12:00	12:00	16:00	12:00					15:00
Vol.	5	236	60	1	16	3	1	2	1					312
Grand Total	24	2508	605	15	152	7	2	17	6	0	0	0	0	3336
Percent	0.7%	75.2%	18.1%	0.4%	4.6%	0.2%	0.1%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	

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Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/21/23	0	13	0	0	0	0	0	0	0	0	0	0	0	13
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
03:00	0	2	1	0	1	0	0	0	1	0	0	0	0	5
04:00	0	15	6	0	1	1	0	0	0	0	0	0	0	23
05:00	0	70	38	1	8	0	0	0	0	0	0	0	0	117
06:00	1	153	61	2	13	1	0	0	0	0	0	0	0	231
07:00	2	162	45	1	13	1	0	2	0	0	0	0	0	226
08:00	1	183	58	1	8	0	0	1	0	0	0	0	0	252
09:00	0	149	30	0	10	1	0	1	0	0	0	0	0	191
10:00	3	127	41	0	15	1	0	3	0	0	0	0	0	190
11:00	2	137	37	0	9	2	0	0	1	0	0	0	0	188
12 PM	3	167	38	2	9	3	0	1	0	0	0	0	0	223
13:00	2	145	32	0	5	1	0	1	0	0	0	0	0	186
14:00	3	167	33	1	8	2	0	1	0	0	0	0	0	215
15:00	4	168	46	1	3	0	0	0	0	0	0	0	0	222
16:00	1	176	45	1	3	1	0	2	0	0	0	0	0	229
17:00	2	195	32	0	6	0	0	1	0	0	0	0	0	236
18:00	1	137	22	0	4	0	0	0	0	0	0	0	0	164
19:00	0	105	13	0	5	0	0	0	0	0	0	0	0	123
20:00	2	75	5	0	0	0	0	0	0	0	0	0	0	82
21:00	0	47	5	0	0	0	0	0	0	0	0	0	0	52
22:00	0	29	2	0	2	0	0	0	0	0	0	0	0	33
23:00	1	13	2	0	0	0	0	0	0	0	0	0	0	16
Day Total	28	2437	594	10	123	14	0	13	2	0	0	0	0	3221
Percent	0.9%	75.7%	18.4%	0.3%	3.8%	0.4%	0.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	08:00	06:00	06:00	10:00	11:00		10:00	03:00					08:00
Vol.	3	183	61	2	15	2		3	1					252
PM Peak	15:00	17:00	15:00	12:00	12:00	12:00		16:00						17:00
Vol.	4	195	46	2	9	3		2						236
Grand Total	28	2437	594	10	123	14	0	13	2	0	0	0	0	3221
Percent	0.9%	75.7%	18.4%	0.3%	3.8%	0.4%	0.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	

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05790Aspeed
Site Code: 313622.01

Northbound

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	Total	85th Percent	95th Percent
11/21/23	0	0	0	1	1	6	2	0	0	0	0	1	0	11	43	67
01:00	0	0	0	0	3	3	0	0	0	0	0	0	0	6	38	39
02:00	0	0	0	2	1	5	1	0	0	0	0	0	0	9	39	42
03:00	0	0	0	0	1	0	1	0	0	0	0	0	0	2	43	44
04:00	0	0	0	1	2	5	2	0	0	0	0	0	0	10	41	43
05:00	0	0	0	1	1	17	5	1	1	0	0	0	0	26	43	48
06:00	1	0	0	4	15	39	9	2	0	0	0	0	0	70	40	44
07:00	1	0	0	9	61	69	16	1	0	0	0	0	0	157	39	42
08:00	0	0	0	16	57	70	16	2	0	0	0	1	0	162	39	43
09:00	3	0	2	18	49	84	11	2	1	0	0	0	0	170	39	42
10:00	4	0	0	25	88	68	9	1	0	0	0	0	0	195	38	40
11:00	2	0	0	14	92	66	11	3	0	0	0	0	0	188	38	42
12 PM	2	0	0	25	93	103	13	1	0	0	0	0	0	237	38	40
13:00	4	0	1	15	100	98	19	2	0	0	0	0	0	239	39	42
14:00	3	2	4	16	109	103	24	1	1	0	0	0	0	263	39	42
15:00	14	0	1	21	91	130	50	4	1	0	0	0	0	312	40	43
16:00	4	0	0	27	116	124	14	3	2	0	0	0	0	290	39	41
17:00	4	0	0	29	132	114	16	3	0	0	0	0	0	298	38	41
18:00	1	0	0	25	103	89	16	1	0	0	0	0	0	235	38	41
19:00	1	0	2	15	79	52	8	0	0	0	0	0	0	157	38	40
20:00	1	0	0	7	65	47	7	0	0	0	0	0	0	127	38	40
21:00	1	0	0	4	33	37	10	0	0	0	0	0	0	85	39	42
22:00	0	0	1	6	18	29	7	0	0	0	0	0	0	61	39	42
23:00	0	0	0	3	8	7	6	2	0	0	0	0	0	26	43	46
Total	46	2	11	284	1318	1365	273	29	6	0	0	2	0	3336		
Percent	1.4%	0.1%	0.3%	8.5%	39.5%	40.9%	8.2%	0.9%	0.2%	0.0%	0.0%	0.1%	0.0%			
AM Peak	10:00		09:00	10:00	11:00	09:00	07:00	11:00	05:00			00:00		10:00		
Vol.	4		2	25	92	84	16	3	1			1		195		
PM Peak	15:00	14:00	14:00	17:00	17:00	15:00	15:00	15:00	16:00					15:00		
Vol.	14	2	4	29	132	130	50	4	2					312		
Grand Total	46	2	11	284	1318	1365	273	29	6	0	0	2	0	3336		
Percent	1.4%	0.1%	0.3%	8.5%	39.5%	40.9%	8.2%	0.9%	0.2%	0.0%	0.0%	0.1%	0.0%			

15th Percentile : 30 MPH
50th Percentile : 35 MPH
85th Percentile : 39 MPH
95th Percentile : 42 MPH

Stats
10 MPH Pace Speed : 31-40 MPH
Number of Vehicles > 35 MPH : 1675
Percent of Vehicles > 35 MPH : 50.2%
Mean Speed(Average) : 35 MPH

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Main Street just north of
Sagamore Spring Country Club
City, State: Lynnfield, MA
Client: McM/L. Young

05790Aspeed
Site Code: 313622.01

Southbound

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	Total	85th Percent	95th Percent
11/21/23	0	0	0	1	4	4	4	0	0	0	0	0	0	13	42	44
01:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1	39	39
02:00	0	0	1	0	1	1	0	0	0	0	0	0	0	3	37	39
03:00	0	0	0	0	0	3	2	0	0	0	0	0	0	5	43	44
04:00	0	0	0	4	4	9	4	2	0	0	0	0	0	23	43	47
05:00	0	0	0	5	28	40	36	7	1	0	0	0	0	117	43	46
06:00	1	0	5	25	77	86	30	4	3	0	0	0	0	231	40	44
07:00	3	0	5	19	90	89	20	0	0	0	0	0	0	226	39	42
08:00	3	0	2	31	82	103	29	2	0	0	0	0	0	252	39	43
09:00	4	0	1	30	51	70	31	4	0	0	0	0	0	191	41	44
10:00	5	0	2	20	64	77	20	1	0	0	0	1	0	190	39	43
11:00	3	0	11	20	66	70	14	4	0	0	0	0	0	188	39	43
12 PM	4	2	14	38	75	65	23	2	0	0	0	0	0	223	39	43
13:00	2	2	4	20	74	59	21	2	1	1	0	0	0	186	39	43
14:00	6	0	6	25	76	80	17	4	1	0	0	0	0	215	39	43
15:00	4	5	8	25	73	71	31	4	1	0	0	0	0	222	40	44
16:00	2	1	16	31	75	78	22	3	1	0	0	0	0	229	39	43
17:00	2	1	6	35	95	84	10	2	1	0	0	0	0	236	38	40
18:00	4	0	0	17	53	69	17	4	0	0	0	0	0	164	39	43
19:00	2	0	3	16	39	45	15	2	1	0	0	0	0	123	39	43
20:00	4	0	0	4	24	38	10	1	1	0	0	0	0	82	39	43
21:00	0	0	0	3	19	19	9	2	0	0	0	0	0	52	41	44
22:00	0	0	0	5	12	10	4	2	0	0	0	0	0	33	41	45
23:00	0	0	0	4	4	6	2	0	0	0	0	0	0	16	39	42
Total	49	11	84	378	1086	1177	371	52	11	1	0	1	0	3221		
Percent	1.5%	0.3%	2.6%	11.7%	33.7%	36.5%	11.5%	1.6%	0.3%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00		11:00	08:00	07:00	08:00	05:00	05:00	06:00			10:00		08:00		
Vol.	5		11	31	90	103	36	7	3			1		252		
PM Peak	14:00	15:00	16:00	12:00	17:00	17:00	15:00	14:00	13:00	13:00				17:00		
Vol.	6	5	16	38	95	84	31	4	1	1				236		
Grand Total	49	11	84	378	1086	1177	371	52	11	1	0	1	0	3221		
Percent	1.5%	0.3%	2.6%	11.7%	33.7%	36.5%	11.5%	1.6%	0.3%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 29 MPH
50th Percentile : 35 MPH
85th Percentile : 39 MPH
95th Percentile : 43 MPH

Stats 10 MPH Pace Speed : 31-40 MPH

Number of Vehicles > 35 MPH : 1613
Percent of Vehicles > 35 MPH : 50.1%
Mean Speed(Average) : 35 MPH

Transportation Data Corporation

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tel (781) 587-0086 cell (781) 439-4999

Main Street just north of
Sagamore Spring Country Club
City, State: Lynnfield, MA
Client: McM/L. Young

05790Avolume
Site Code: 313622.01

Start Time	21-Nov-23 Tue		NB		SB		Combined		22-Nov Wed	NB		SB		Combined	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	4	56	1	50	5	106	*	*	*	*	*	*	*	*	
12:15	2	58	6	56	8	114	*	*	*	*	*	*	*	*	
12:30	1	55	5	59	6	114	*	*	*	*	*	*	*	*	
12:45	4	68	1	58	5	126	*	*	*	*	*	*	*	*	
01:00	3	50	0	44	3	94	*	*	*	*	*	*	*	*	
01:15	2	56	1	50	3	106	*	*	*	*	*	*	*	*	
01:30	0	69	0	40	0	109	*	*	*	*	*	*	*	*	
01:45	1	64	0	52	1	116	*	*	*	*	*	*	*	*	
02:00	6	62	1	66	7	128	*	*	*	*	*	*	*	*	
02:15	1	77	1	38	2	115	*	*	*	*	*	*	*	*	
02:30	2	63	0	56	2	119	*	*	*	*	*	*	*	*	
02:45	0	61	1	55	1	116	*	*	*	*	*	*	*	*	
03:00	1	63	1	52	2	115	*	*	*	*	*	*	*	*	
03:15	0	76	1	53	1	129	*	*	*	*	*	*	*	*	
03:30	0	94	1	68	1	162	*	*	*	*	*	*	*	*	
03:45	1	79	2	49	3	128	*	*	*	*	*	*	*	*	
04:00	1	74	6	71	7	145	*	*	*	*	*	*	*	*	
04:15	0	81	4	55	4	136	*	*	*	*	*	*	*	*	
04:30	3	62	7	50	10	112	*	*	*	*	*	*	*	*	
04:45	6	73	6	53	12	126	*	*	*	*	*	*	*	*	
05:00	5	85	12	59	17	144	*	*	*	*	*	*	*	*	
05:15	5	84	22	70	27	154	*	*	*	*	*	*	*	*	
05:30	9	57	35	54	44	111	*	*	*	*	*	*	*	*	
05:45	7	72	48	53	55	125	*	*	*	*	*	*	*	*	
06:00	14	60	37	35	51	95	*	*	*	*	*	*	*	*	
06:15	12	65	47	42	59	107	*	*	*	*	*	*	*	*	
06:30	15	56	82	48	97	104	*	*	*	*	*	*	*	*	
06:45	29	54	65	39	94	93	*	*	*	*	*	*	*	*	
07:00	33	47	52	38	85	85	*	*	*	*	*	*	*	*	
07:15	46	41	53	29	99	70	*	*	*	*	*	*	*	*	
07:30	35	41	62	29	97	70	*	*	*	*	*	*	*	*	
07:45	43	28	59	27	102	55	*	*	*	*	*	*	*	*	
08:00	40	36	61	22	101	58	*	*	*	*	*	*	*	*	
08:15	35	22	64	17	99	39	*	*	*	*	*	*	*	*	
08:30	43	34	66	18	109	52	*	*	*	*	*	*	*	*	
08:45	44	35	61	25	105	60	*	*	*	*	*	*	*	*	
09:00	37	25	44	16	81	41	*	*	*	*	*	*	*	*	
09:15	43	19	60	19	103	38	*	*	*	*	*	*	*	*	
09:30	42	24	42	11	84	35	*	*	*	*	*	*	*	*	
09:45	48	17	45	6	93	23	*	*	*	*	*	*	*	*	
10:00	45	17	40	8	85	25	*	*	*	*	*	*	*	*	
10:15	37	14	47	8	84	22	*	*	*	*	*	*	*	*	
10:30	52	21	61	11	113	32	*	*	*	*	*	*	*	*	
10:45	61	9	42	6	103	15	*	*	*	*	*	*	*	*	
11:00	50	8	42	5	92	13	*	*	*	*	*	*	*	*	
11:15	49	2	51	4	100	6	*	*	*	*	*	*	*	*	
11:30	55	10	56	3	111	13	*	*	*	*	*	*	*	*	
11:45	34	6	39	4	73	10	*	*	*	*	*	*	*	*	
Total	1006	2330	1440	1781	2446	4111	0	0	0	0	0	0	0	0	
Day Total	3336		3221		6557		0		0		0		0		
% Total	15.3%	35.5%	22.0%	27.2%			0.0%	0.0%	0.0%	0.0%					
Peak	-	10:45	03:30	06:30	03:30	08:00	03:30	-	-	-	-	-	-	-	
Vol.	-	215	328	252	243	414	571	-	-	-	-	-	-	-	
P.H.F.	0.881	0.872	0.768	0.856	0.950	0.881									
ADT	ADT 6,557		AADT 6,557												

Transportation Data Corporation

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Main Street just north of
Sagamore Spring Country Club
City, State: Lynnfield, MA
Client: McM/L. Young

05790Avolume
Site Code: 313622.01

Start Time	21-Nov-23 Tue	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		4	56			1	50				
12:15		2	58			6	56				
12:30		1	55			5	59				
12:45		4	68	11	237	1	58	13	223	24	460
01:00		3	50			0	44				
01:15		2	56			1	50				
01:30		0	69			0	40				
01:45		1	64	6	239	0	52	1	186	7	425
02:00		6	62			1	66				
02:15		1	77			1	38				
02:30		2	63			0	56				
02:45		0	61	9	263	1	55	3	215	12	478
03:00		1	63			1	52				
03:15		0	76			1	53				
03:30		0	94			1	68				
03:45		1	79	2	312	2	49	5	222	7	534
04:00		1	74			6	71				
04:15		0	81			4	55				
04:30		3	62			7	50				
04:45		6	73	10	290	6	53	23	229	33	519
05:00		5	85			12	59				
05:15		5	84			22	70				
05:30		9	57			35	54				
05:45		7	72	26	298	48	53	117	236	143	534
06:00		14	60			37	35				
06:15		12	65			47	42				
06:30		15	56			82	48				
06:45		29	54	70	235	65	39	231	164	301	399
07:00		33	47			52	38				
07:15		46	41			53	29				
07:30		35	41			62	29				
07:45		43	28	157	157	59	27	226	123	383	280
08:00		40	36			61	22				
08:15		35	22			64	17				
08:30		43	34			66	18				
08:45		44	35	162	127	61	25	252	82	414	209
09:00		37	25			44	16				
09:15		43	19			60	19				
09:30		42	24			42	11				
09:45		48	17	170	85	45	6	191	52	361	137
10:00		45	17			40	8				
10:15		37	14			47	8				
10:30		52	21			61	11				
10:45		61	9	195	61	42	6	190	33	385	94
11:00		50	8			42	5				
11:15		49	2			51	4				
11:30		55	10			56	3				
11:45		34	6	188	26	39	4	188	16	376	42
Total		1006	2330			1440	1781			2446	4111
Combined Total		3336				3221				6557	
Percentage	0.0%										
Total Percent		1006	2330			1440	1781			2446	4111
		30.2%	69.8%			44.7%	55.3%			37.3%	62.7%
ADT		ADT 6,557		AADT 6,557							

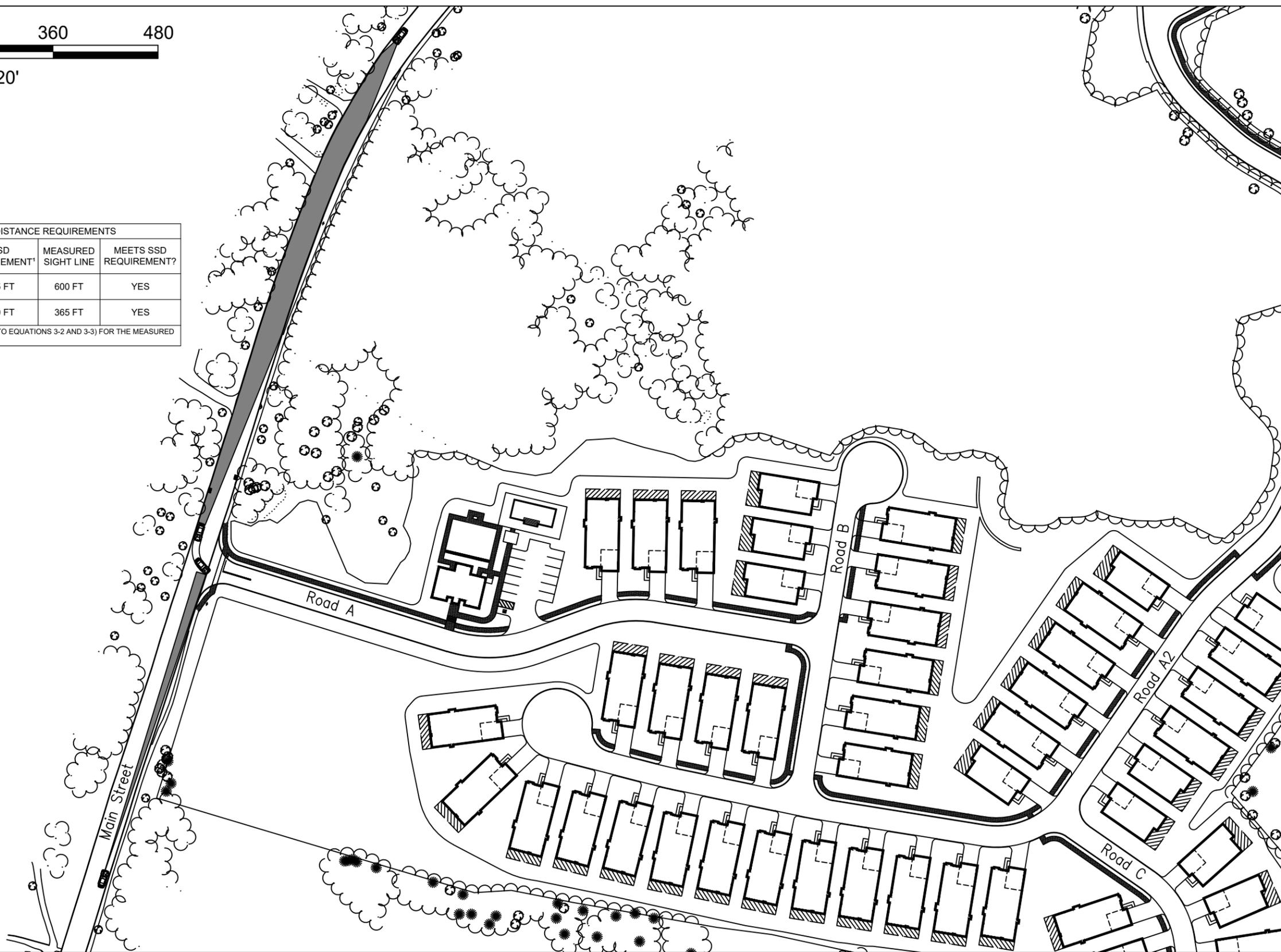
Sight Distance Graphic

0 120 240 360 480

SCALE: 1" = 120'

PROPOSED ROAD A DRIVEWAY - SIGHT DISTANCE REQUIREMENTS					
APPROACHING	POSTED SPEED LIMIT	85th PERCENTILE SPEED	SSD REQUIREMENT ¹	MEASURED SIGHT LINE	MEETS SSD REQUIREMENT?
SOUTHBOUND	25 MPH	39 MPH	305 FT	600 FT	YES
NORTHBOUND	25 MPH	39 MPH	300 FT	365 FT	YES

¹ - MINIMUM STOPPING SIGHT DISTANCE REQUIREMENT (SEE AASHTO EQUATIONS 3-2 AND 3-3) FOR THE MEASURED 85th PERCENTILE SPEEDS.



Existing conditions and proposed design plans provided by The Morin-Cameron Group, Inc. dated November 30, 2023.

AVAILABLE SIGHT DISTANCE

THE REGENCY AT LYNNFIELD SENIOR HOUSING DEVELOPMENT
LYNNFIELD, MA



