

APPENDIX A

REQUEST FOR PROPOSALS

GROUND LEASE OF PROPERTY FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF AN ICE SKATING RINK

PLAN OF THE SITE WEST OF HARRIS FIELD (The Football Stadium)



APPENDIX B

REQUEST FOR PROPOSALS

GROUND LEASE OF PROPERTY FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF AN ICE SKATING RINK

PHOTOGRAPHS OF THE SITE





APPENDIX D

REQUEST FOR PROPOSALS

GROUND LEASE OF PROPERTY FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF AN ICE SKATING RINK

DIMENSIONAL REGULATIONS

(§4.2 of the Town of Belmont Zoning By-Law)

4.2 Schedule of Dimensional Regulations

4.2.1 Area Requirements

	MINIMUM LOT AREA	MINIMUM LOT FRONTAGE	MINIMUM LOT AREA PER DWELLING UNIT	MAXIMUM FLOOR AREA RATIO	MAXIMUM LOT COVERAGE	MINIMUM OPEN SPACE
DISTRICTS	SQ. FT.	FEET	SQ. FT./D.U.		% OF LOT	% OF LOT
GR	5,000	50	3,500	--	30%	40%

4.2.2 Linear Requirements for Residential Districts

	MINIMUM SETBACK DIMENSIONS FEET			MAXIMUM BUILDING HEIGHT	
RESIDENTIAL DISTRICTS	Front	Side	Rear	Feet	Stories
GR					
➤ Dwelling	20	10	20	33	2½
➤ Other	20	10	12	33	2½

APPENDIX E

REQUEST FOR PROPOSALS

GROUND LEASE OF PROPERTY FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF AN ICE SKATING RINK

PARKING REGULATIONS

(§5.1.1 and 5.1.2 of the Town of Belmont Zoning By-Law)

5.1.1 Number of Spaces

- a) Off-street parking shall be provided to service all increases in parking demand resulting from new construction, additions, or change of use to one requiring more parking, without counting any existing spaces needed to meet requirements for the existing building and use. The number of spaces indicated in Section 5.1.2, Schedule of Requirements, shall be the basis for determining adequacy of provisions. Any existing spaces removed shall be replaced in kind unless they are either in excess of the number required or removed at the request of the Town. Parking spaces also serving as loading areas shall not be credited.
- b) The number of spaces may be reduced to less than that stipulated below if, in acting on Design and Site Plan Review, the Planning Board determines that a smaller number would be adequate for all parking needs because of such special circumstances as:
 - 1. shared parking for uses having peak parking demands at different times,
 - 2. unusual age or other characteristics of site users, or
 - 3. user sponsored demand reduction devices such as carpooling.

5.1.2 Schedule of Requirements

- b) Places of public assembly: one parking space for each three persons capacity based on the Massachusetts State Building Code.
- d) Restaurant: one parking space per 2 persons seating capacity. For purposes of calculating parking requirements, up to 20 outdoor seasonal seats shall not count in total seating capacity.
- e) Commercial recreation: one parking space per two persons participant capacity, plus one space per three persons spectator capacity.
- i) Other uses: a number of spaces to be determined by the Building Inspector (or the Planning Board in cases referred to it for Design and Site Plan Review), based upon evidence from similar uses under similar circumstances.

APPENDIX F

REQUEST FOR PROPOSALS

**GROUND LEASE OF PROPERTY
FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF AN ICE SKATING RINK**

SITE ACCESS EVALUATION

The BSC Group Site Access Evaluation is attached on the following pages.



MEMORANDUM

803 SUMMER STREET, BOSTON, MA 02127 - www.bscgroup.com
TEL 617-896-4300 - 800-288-8123

To: Mr. Glenn Clancy, PE Director of Community Development Town of Belmont 19 Moore Street Belmont, MA 02478	Date: August 15, 2019
From: Sam Offei-Addo, PE, PTOE Michael A. Santos, PE, PTOE	Proj. No. 28374.50
Re: Town of Belmont Skating Rink Site Access Evaluation	

Introduction

At the request of the Town of Belmont, BSC group has conducted an evaluation of transportation issues related to the construction of a proposed skating rink located along Concord Avenue, adjacent to Belmont High School. The parcel is located on Belmont School Department property, directly west of Harris Field. The site currently contains the existing Viglirolo Ice Rink and athletic fields used by Belmont High School.

The Town of Belmont is seeking to evaluate various options for site configuration and site access locations to determine the most appropriate layout and design of the Project. This evaluation is limited to site access location related to the adjacent transportation network and provides a comparison of three different driveway locations. The evaluation and conclusions provided in this memo will be used to develop the Request for Proposals (RFP) to select a contractor for construction of the Project.

Background

The Town of Belmont is currently in the process of upgrading the Middle and High School through the Massachusetts School Building Authority (MSBA). The new high school will include major renovations and additions to the existing school and will change transportation patterns related to circulation, site access, and pedestrian facilities. The high school will have two vehicular access points. Primary access will be provided along Concord Avenue, opposite Goden Street. Secondary access to the high school site will be provided along Hittinger Street at the east end of the property. A traffic signal is proposed at the intersection of Concord Avenue at Goden Street and the proposed site driveway that will allow left-turns to and from Concord Avenue. The high school project is currently in the final stages of design and construction is expected to commence in 2019. A detailed traffic study was conducted for the high school project and submitted as part of a 2018 Schematic Design Report. Traffic data and other relevant information from that study was used to form the basis of the evaluation of the proposed skating rink and athletic field project.

The site that is the subject of this study is located on the Town of Belmont School Department property and will also be redesigned to include a new ice rink and athletic fields. The requirements of the site include one and a half sheets of ice, the retention of the existing athletic facilities, and parking for 110 vehicles. The Town of Belmont provided several conceptual plans for the location of the ice rink building and the athletic fields. Vehicular circulation, site access, and parking facilities will be affected by the selected concept. Access to the site will be provided by a new curb cut along the north side of Concord Avenue. The existing parking area located along the north side of Concord Avenue will be eliminated with the redevelopment of the site. This study evaluates the transportation impacts of the proposed driveway locations, vehicular circulation along Concord Avenue, and intersection operations at the adjacent intersections.



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The future ice rink will be operated by a private company, with priority given to school uses. This evaluation focuses on average day uses at the ice rink facility, as future programming including special events are currently not known. The evaluation presented in this memorandum includes a description of existing conditions, a description of the Project and options for site access, trip generation and vehicular circulation, an intersection operations analysis, and a comparison of the three options for site access. This evaluation is intended to provide the Town with guidance to locate the future driveway and assist with the overall design of the site.

Existing Conditions

The Project site is located on Belmont School Department property along the north side of Concord Avenue and is bounded by Harris Field to the east, commercial properties to the west, and the Massachusetts Bay Transportation Authority (MBTA) commuter rail right-of-way to the north. The site currently contains the Viglirolo Ice Rink and athletic fields that serve the high school. Access to the site is provided by an approximately 300-foot long driveway adjacent to and along the north side of Concord Avenue. Storage for approximately 25-30 vehicles is provided along the driveway. On-street parking along Concord Avenue and the intersecting side streets also serves the existing needs of the site during times of higher demand. Pedestrian access to the site is provided by sidewalks along Concord Avenue and walkways that connect the fields and ice rink with the high school.

The existing ice rink currently serves Belmont High School and is open to residents for recreational purposes throughout the year. The existing athletic fields are used by Belmont High School's junior varsity athletic teams. The following sections describe the conditions of the existing transportation infrastructure within the study area.

Study Area

The study area selected for evaluation includes the segment of Concord Avenue between Goden Street and Common Street/Leonard Street. The following three intersections were selected for analysis purposes:

- Concord Avenue/Goden Street
- Concord Avenue/Cottage Street
- Concord Avenue/Common Street/Leonard Street/Royal Road

The proposed site driveways will also be evaluated as part of this study. The existing study area and site location are shown in Figure 1.

Existing Roadway and Intersection Conditions

Concord Avenue

Concord Avenue is a two-lane urban principal under Town of Belmont jurisdiction that travels in an east-west direction between the Town of Lexington and Harvard Square, providing access to the Belmont High School and Belmont Center. In the vicinity of the Project site, the roadway consists of a single travel lane, a bicycle lane, and a parking lane in both directions. The directions of travel are separated by a raised median, with breaks at some intersections and driveways. Sidewalks are provided along both sides of Concord Avenue, with curb ramps and crosswalks at intersections.



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Concord Avenue at Common Street

Concord Avenue and Common Street intersect to form a three-legged, unsignalized intersection, located west of the Project site. The Common Street eastbound approach consists of an exclusive left-turn lane and a through lane. The Concord Avenue westbound approach consists of a single lane wide enough to accommodate two lanes of traffic for through and right-turn movements. The westbound movement also contains an exclusive bicycle lane. The Concord Avenue southbound approach also consists of a single lane wide enough to accommodate two lanes of traffic for left and right-turning vehicles. There is no defined traffic control at the intersection, although the southbound approach operates under stop-control. Sidewalks are provided along both sides of all approaches at the intersections. Crosswalks and curb ramps are not present.

Concord Avenue at Cottage Street

Concord Avenue and Cottage Street intersect to form a three-legged intersection that generally operates under flash-control. A pedestrian pushbutton is present at the intersection to actuate an exclusive pedestrian phase. The Cottage Street northbound approach consists of a single lane under stop-control. Cottage Street is one-way in the northbound direction, with parking allowed on the east side. As previously described, Concord Avenue consists of a single travel lane, a bicycle lane, and a parking lane in each direction. The Project site is located opposite Cottage Street along the north side of Concord Avenue.

Concord Avenue at Goden Street

Concord Avenue and Goden Street intersect to form a three-legged unsignalized intersection, located east of the Project site. The Goden Street northbound approach consists of a single travel lane, allowing both left and right-turns. The Concord Avenue approaches both consist of a single travel lane, a bicycle lane, and a parking lane. Primary access for the proposed high school will be located opposite Goden Street and a traffic signal will be installed at this location. The traffic signal is incorporated into the future conditions analyses included in this evaluation.

Existing Traffic Conditions

Existing traffic data for the study area intersections was obtained from the Belmont High School Traffic Study – Existing Conditions and Recommendations Report¹. Turning movement counts (TMCs) were performed during the weekday morning and afternoon peak periods of school activity in September 2017. Counts were not conducted at the intersection of Concord Avenue at Cottage Street. Traffic volumes for vehicles exiting Cottage Street to travel to Concord Avenue were estimated based on balancing from the intersection at Goden Street. Due to the curb cuts and school activity between the two locations, the balancing method of estimating traffic volumes may slightly overestimate the traffic volumes on Cottage street, which would result in a more conservative (or worst-case scenario) analysis.

The existing traffic volumes are presented in Figures 2 and 3 for the weekday morning and afternoon peak hours, respectively.

Motor Vehicle Crash History

Motor vehicle crash data were obtained for the study area intersections from the MassDOT crash database for the years 2014-2018. The data is used to identify correctable safety issues and crash trends. The crashes are organized by various characteristics and an overall crash rate is calculated based on the number of crashes and traffic volumes that travel through each intersection. The rates are then compared to the district's average

¹ *Belmont High School Traffic Study – Existing Conditions and Recommendations Report*; Nelson Nygaard; June 2018.



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crash rate for similar types of intersections to determine if there are more crashes than what is expected. The MassDOT District 4 (the district in which Belmont is located) average for unsignalized intersections is 0.57 crashes per million entering vehicles (MEV). Table 1 presents the motor vehicle crash data for the study area.

Table 1
Motor Vehicle Crash Summary

	Concord Avenue at Goden Street	Concord Avenue at Cottage Street	Concord Avenue at Common Street
Year			
2014	0	1	6
2015	1	0	5
2016	2	1	3
2017	1	0	10
2018	4	2	1
Collision Type			
Angle	5	1	12
Head-on	0	0	1
Rear-end	1	3	3
Sideswipe	2	0	7
Single-vehicle crash	0	0	2
Unknown	0	0	0
Severity			
Fatality	0	0	0
Injury	1	0	4
Property-related	7	4	19
Unknown	0	0	2
Light Conditions			
Daylight	5	3	22
Dawn/Dusk	2	0	0
Dark	1	1	3
Road Conditions			
Dry	6	4	22
Wet	2	0	3
Snow/Ice	0	0	0
Unknown	0	0	0
Time of Day			
12AM – 7AM	0	0	0
7AM – 9AM	2	0	6
9AM – 4PM	4	3	7
4PM – 6PM	1	1	8
6PM – 12AM	1	0	4
Total Crashes	8	4	25
Crash Rate¹	0.27	0.15	0.65

¹ Crashes per million vehicles entering the intersection

As shown in Table 1, the intersection of Concord Avenue at Common Street averaged 0.65 crashes per MEV over the five-year period. The intersections of Concord Avenue at Goden Street and Concord Avenue at Cottage Street experienced a total of 12 crashes over the five-year period, with one injury reported. The majority of crashes at Concord Avenue/Goden Street were angle type collisions and the most common crashes



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at Concord Avenue/Cottage Street were rear-end type collisions. The crashes at Goden Street could be a result of vehicles turning from and to Goden Street as they cross the through traffic along Concord Avenue. The rear-end collisions at Cottage Street could be a result of congestion related to on-street parking and the pedestrian signal at the intersection, which may create unexpected stops for the through traffic along Concord Avenue. Based on this evaluation, there are no major safety issues at the intersections of Concord Avenue/Goden Street and Concord Avenue/Cottage Street, which are adjacent to the high school property. The intersection of Concord Avenue at Common Street experienced more crashes than the average unsignalized intersection. This could be a result of confusing right-of-way, lack of traffic control, and significant congestion during the peak periods.

Pedestrian and Bicycle Facilities

The study area and Concord Avenue is well served with both pedestrian and bicycle facilities, providing access to the high school property and the Project site. The following pedestrian facilities are provided along Concord Avenue:

- A continuous sidewalk is provided along both sides of Concord Avenue, with crosswalks and curb ramps at intersecting roadways.
- A pedestrian signal is located at Cottage Street, which provides an exclusive pedestrian phase upon pushbutton actuation to allow safe crossings between the high school property and the Project site and the south side of Concord Avenue. The pedestrian signal serves the existing ice rink and the high school, as well as providing a safe crossing for people that park along the south side of Concord Avenue that need to cross.
- A pedestrian signal is located east of Orchard Street, which also provides an exclusive pedestrian phase upon pushbutton actuation. This crossing provides access to the east side of the high school property's frontage along Concord Avenue.
- Exclusive bicycle lanes are provided along both sides of Concord Avenue.

The existing pedestrian and bicycle facilities are shown in Figure 4.

Public Transportation Facilities

Three bus routes operated by the Massachusetts Bay Transportation Authority (MBTA) run along Concord Avenue adjacent to the Project site. Bus stops are located along Concord Avenue at Orchard Street, Myrtle Street, and Cottage Street. Additionally, a no parking zone that is used as a school bus loading area is located along the westbound side of Concord Avenue adjacent to the existing ice rink, west of Cottage Street. The existing public transportation facilities are also shown in Figure 4.



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Future Conditions

As previously described, the Town of Belmont is currently in the process of undertaking major renovations and additions to the existing high school. The high school project also proposes several modifications to the transportation infrastructure along Concord Avenue. Major modifications that have an impact on the ice rink/athletic field project include the following:

- Enhanced pedestrian connections throughout the high school property, including a potential connection between the school and the ice rink/athletic fields
- Enhanced bicycle facilities on the high school site, including connections to the community path that runs parallel the MBTA commuter rail right-of-way
- A new driveway will be located opposite Goden Street and will be placed under traffic signal control

The proposed modifications related to the high school project have been incorporated into this evaluation.

Proposed Project

The athletic fields and ice rink will be redeveloped and are the subject of this study. The Town is currently developing design alternatives for the layout of the ice rink and athletic fields, which will include a new building with one and a half sheets of ice, athletic fields to support baseball, softball, and soccer, and requires 110 on-site parking spaces. A total of 90 parking spaces will be reserved for students during school hours. Outside of school hours, all 110 parking spaces will be available for rink uses. The existing Site access has yet to be determined and is the subject of this evaluation. The following describes three alternatives for site access locations:

Option 1 – Cottage Street Location

Option 1 will locate the site driveway directly opposite Cottage Street, forming a fourth leg of the intersection and is presented in Figure 5. The driveway will accommodate two-way travel and the approach to Concord Avenue will be placed under STOP-sign control. This option will require upgrades to the existing pedestrian traffic signal, minor modifications to the median to allow for upgraded crosswalks, and the installation of additional curb ramps.

The curbside regulations along the north side of Concord Avenue do not currently allow on-street parking in the location of the driveway due to the existing traffic signal, crosswalk, and existing driveway that currently serves the ice rink and athletic fields. This option will have minimal impact to the existing curbside activity.

Option 2 – East of Cottage Street Location

Option 2 will locate the site driveway at the eastern portion of the site, close to Harris Field. Option 2 is presented in Figure 6. The driveway's specific location can shift as needed to support the needs of the site programming. The driveway will accommodate two-way travel and the approach will be placed under STOP-sign control. This option will serve right-in and right-out movements only due to the median along Concord Avenue, which will require some vehicles to make u-turn maneuvers at Cottage Street and Goden Street for access and egress. Alternatively, the median can be opened to provide full access in and out of the driveway to and from both directions along Concord Avenue.

The curbside regulations in the area of the proposed Option 2 driveway are existing ADA accessible parking spaces and a no-parking zone that is currently used as a school bus loading zone. As part of the high school



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project, the bus loading will be relocated on-site and the existing on-street zone is likely to be removed. Impacts to the on-street curbside activity will be minimal with Option 2.

Option 3 – West of Cottage Street Location

Option 3 will locate the site driveway west of Cottage Street, near the western portion of the site and is presented in Figure 7. As with Option 2, the driveway's specific location can be shifted as needed to support the needs of the site. This driveway will also accommodate two-way travel and will be placed under STOP-sign control. This option will also serve right-in/right-out movements due to the median, with the option of opening the median to serve all movements. Should the median not be opened under this option, u-turns will be necessary at Cottage Street to accommodate all access and egress maneuvers.

The curbside regulations in the area of the Option 3 driveway consist of on-street parking spaces. It will be necessary to remove the equivalent of 3 to 4 on-street parking spaces under Option 3.

Future Traffic Volumes

A review of the June 2018 traffic study conducted for the high school project was conducted to determine the future traffic volumes to develop a baseline scenario to evaluate and compare each of the options to a "No-Build" scenario. The No-Build scenario includes future traffic volumes, projected to the year 2021 (expected completion date of the high school project), with the traffic pattern changes related to the high school and without the redevelopment of the ice rink/athletic fields site. The No-Build scenario also includes other modifications such as the installation of a traffic signal at the intersection of Concord Avenue at Goden Street and right-turn restrictions during the weekday morning peak hour along Concord Avenue eastbound.

The 2021 No-Build traffic volumes are presented in Figures 8 and 9 for the weekday morning and afternoon peak hours, respectively.

Trip Generation and Assignment

To assess the traffic-related impacts of the Project, trip generation for both the existing site and the proposed site were estimated. The ice rink and athletic fields are expected to generate the most activity during the weekday afternoon peak hour. Minimal activity is expected during the weekday morning peak hour. Trip generation estimates for the weekday afternoon peak hour were calculated using data from the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition) and are presented in Table 2. For comparison purposes, empirical trip generation data from ice rinks in Middleton, MA and Marlborough, MA was obtained from a traffic study conducted for a project in Wellesley, MA¹ and are also presented in Table 2. Due to the lack of additional information and an understanding of any specific events during the data collection related to the empirical trip generation, the ITE data was used for analysis purposes in this evaluation.

¹ *Traffic Impact and Access Study: Proposed Sports Complex – 900 Worcester Street Wellesley, MA*; MDM Transportation Consultants, Inc.; May 2017.



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Table 2
Trip Generation Estimates

Time Period	Existing Uses ¹	Proposed Uses ²	Net Increase	Empirical Data ³
<i>Weekday Morning Peak Hour</i>				
Enter				20
Exit	ITE Data Not Provided for weekday morning peak hour			<u>130</u>
Total				150
<i>Weekday Afternoon Peak Hour</i>				
Enter	28	42	+14	67
Exit	<u>17</u>	<u>26</u>	<u>+9</u>	<u>56</u>
Total	45	68	+23	123
<i>Saturday Midday Peak Hour</i>				
Enter	63	95	+32	64
Exit	<u>50</u>	<u>75</u>	<u>+25</u>	<u>58</u>
Total	113	170	+57	122

1 Based on ITE Land Use Code 465 – Ice Skating Rink (1 rink)

2 Based on ITE Land Use Code 465 – Ice Skating Rink (1.5 rinks)

3 As presented in the May 2017 traffic study for a Sports Complex in Wellesley, MA and based on two ice rinks

As shown in Table 2, the Project is expected to generate up to 68 vehicle trips during the weekday afternoon peak hour. This represents an increase of 23 trips when compared to the existing uses. These trip generation estimates represent an average day with typical ice rink programming. The estimates do not consider special programming events such as tournaments or other functions that may occur at the facilities.

The empirical data shows that the two rinks for which data was collected will result with slightly higher trip generation estimates during the afternoon peak hour and lower estimates during the Saturday midday peak hour.

While it is expected that there will be some weekday morning trip generation at the proposed facility, most of it will occur prior to the commuter peak periods (before 7:00 AM) when traffic volumes are lighter and Concord Avenue and the intersecting roadways have sufficient capacity to process the minor increase in traffic volumes traveling to the facility. A weekday morning peak hour analysis is not provided in this evaluation due to the minimal impact during this time period. Similarly, the Saturday midday peak is not considered to be the peak of traffic operations along Concord Avenue and an analysis of this time period was not conducted.

The traffic volumes expected to be generated by the new ice rink were assigned to the study area intersections based on existing travel patterns along Concord Avenue and the intersecting roadways. The traffic volumes related to the existing facility were also removed from the study area network to develop the future 2021 Build traffic volumes for the weekday afternoon peak hour. The access and egress paths and the future 2021 Build traffic volumes are presented in Figures 10 through 15 for each of the three site access options.



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Traffic Operations Analysis

To assess the quality of traffic flow, capacity analyses were conducted at the study area intersections for the weekday morning, weekday afternoon, and Saturday midday peak hours. Analyses were conducted using the Synchro 10 traffic analysis software, which is based on methods defined in the Highway Capacity Manual 2010¹.

A primary result of capacity analyses is the assignment of a Level of Service (LOS) to traffic facilities under various traffic flow conditions. Six Levels of Services are defined for each type of facility. They are given letter designations from A to F, with LOS A representing the best operating conditions with little delay and LOS F representing the worst, with the most delay.

The average delay per vehicle approaching an intersection is used to quantify the LOS at a particular intersection. The LOS designations are defined below in Table 3. Average delay measures the mean stopped delay experienced by vehicles entering an intersection during the analysis period. Average delay is measured for each individual turning movement that must yield the right of way and for the intersection as a whole, if signalized.

Table 3
Level of Service Designations

Level of Service	Average Delay (seconds/vehicle)	
	Unsignalized	Signalized
A	0.0 - 10.0	0.0 - 10.0
B	>10.0 – 15.0	>10.0 – 20.0
C	>15.0 – 25.0	>20.0 – 35.0
D	>25.0 – 35.0	>35.0 – 55.0
E	>35.0 – 50.0	>55.0 – 80.0
F	>50.0	>80.0

Source: Transportation Research Board, Highway Capacity Manual,
National Research Council, 2010.

Table 4 shows the operating conditions of the study intersections for the weekday afternoon peak hour for the following scenarios:

- 2019 Existing Conditions
- 2021 No-Build Conditions
- 2021 Build Conditions (3 options)

Table 4 presents the operations analysis for the study area intersections. The analysis shows that the intersection of Concord Avenue at Common Street currently experiences significant delay and queuing related to the overall traffic volumes and traffic control.

The analysis shows that when compared to the 2021 No-Build conditions, the Project will have minimal impact. The analysis also shows there are some movements that currently operate with moderate to

¹ *Highway Capacity Manual* 2010; Transportation Research Board; Washington, DC; 2010.



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significant delays that will continue in the future without improvements. The analysis assumes that there will be no break in the median for Options 2 and 3 and incorporates the increase in u-turning movements at Cottage Street and Goden Street.

Based on the metrics presented in the operations analysis, all three options are generally similar related to impacts on intersection operations. The analysis does identify that there are difficulties for movements exiting both Cottage Street and Goden Street, which is due to the high levels of traffic along Concord Avenue during the peak periods.

Parking

The Project will require 110 parking spaces on the site. A total of 90 spaces will be allocated for student parking during school hours. Outside of school hours, all spaces will be reserved for ice rink uses. Currently, there are approximately 30 usable parking spaces in the driveway along Concord Avenue in the southern portion of site that serve the ice rink and athletic fields. The on-street parking along Concord Avenue and neighborhood roadways serve the additional parking demand for the existing site during events or other periods of increased activity. By locating additional parking on the site and providing efficient access, the Project will have a positive impact on the surrounding neighborhood's on-street parking supply during events. Additionally, as part of the high school project, parking will be located toward the north portion of the site, adjacent to the community path. The Project will have access to these parking areas outside of school hours to use for special events and parking management, further reducing the demand for on-street parking.



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Table 4
Traffic Operations Analysis

Intersection/Movement	2019 Existing			2021 No-Build			2021 Build Option 1			2021 Build Option 2			2021 Build Option 3		
	Delay ¹	LOS ²	Queue ³	Delay	LOS	Queue	Delay	LOS	Queue	Delay	LOS	Queue	Delay	LOS	Queue
Concord Avenue/Common Street															
Common Street EB L	21.7	C	7	25.8	D	8	26.1	D	8	26.1	D	8	26.1	D	8
Common Street EB T	0.0	A	0	0.0	A	0	0.0	A	0	0.0	A	0	0.0	A	0
Concord Avenue WB T	0.0	A	0	0.0	A	0	0.0	A	0	0.0	A	0	0.0	A	0
Concord Avenue WB R	0.0	A	0	0.0	A	0	0.0	A	0	0.0	A	0	0.0	A	0
Concord Avenue SB L	>50.0	F	>20	>50.0	F	>20	>50.0	F	>20	>50.0	F	>20	>50.0	F	>20
Concord Avenue SB R	14.3	B	4	15.1	C	4	15.1	C	4	15.1	C	4	15.1	C	4
Concord Avenue/Cottage Street															
Concord Avenue EB T	0.0	A	0	0.0	A	0	0.0	A	0	0.0	A	0	10.3	B	1
Concord Avenue WB T	0.0	A	0	0.0	A	0	0.0	A	0	0.0	A	0	0.0	A	0
Cottage Street NB L/R	41	E	4	>50.0	F	6	>50.0	F	10	>50.0	F	7	>50.0	F	7
Driveway SB R	--	--	--	--	--	--	>50.0	F	2	--	--	--	--	--	--
Concord Avenue/Goden Street															
Concord Avenue EB L/T/R	0.0	A	0	6.7	A	7	7.1	A	8	7.5	A	8	7.5	A	8
Concord Avenue WB L/T/R	9.0	A	1	23.1	C	21	25.6	C	21	24.1	C	21	24.1	C	21
Goden Street NB L/T/R	>50.0	F	12	34.2	C	8	32.8	C	8	36.9	D	8	36.9	D	8
School Driveway SB L/T/R	--	--	--	17.7	B	3	17.4	B	3	17.7	B	3	17.7	B	3

1 Average delay measured in seconds

2 Level-of-Service

3 95th percentile queue measured in number of vehicles



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Conclusions and Recommendations

This evaluation presents a review of existing conditions, a description of the context of the Project in relation to the ongoing high school project, and an analysis of three different options for site access. The evaluation focuses on an average day for operations at the ice rink and does not provide quantitative analyses for special events that will require additional management of traffic flow and parking.

Conclusions

The following presents a review of the benefits and constraints of each option for site access related to circulation, pedestrian safety, vehicular safety and operations, and impacts to the surrounding environment.

Option 1 – Cottage Street Location

Option 1 would locate the proposed site access point opposite Cottage Street and would be incorporated into the existing pedestrian signal.

- This option provides the best traffic circulation and access by eliminating the need for u-turns along Concord Avenue.
- Impacts to on-street curbside regulations and on-street parking are negligible.
- Pedestrian safety is maximized under this option due to the lack of necessary u-turns for site access and egress.
- Tree removal will not be necessary under this option.
- Upgrades to the existing pedestrian traffic signal are required, which carry an additional cost when compared to the other two options.
- This option would locate the driveway close to the center of the site, which may limit the options for design of the site.

Option 2 – East of Cottage Street Location

Option 2 would locate the proposed site access point east of Cottage Street, approximately 350 feet west of the proposed traffic signal at Goden Street.

- This option provides a good location for optimal site design by locating the driveway at the far east edge of the site.
- Impacts to on-street curbside regulations will be minimal, but will require the modification of the existing no parking/bus loading zone along Concord Avenue, although this zone should be removed with the overall high school project.
- Tree removal will not be necessary under this option.
- The existing pedestrian signal at Cottage Street will not require modifications.
- Vehicular circulation will require u-turns at Cottage Street or further west along Concord Avenue to accommodate exiting vehicles traveling east if the median is not opened for full access.
- Vehicular circulation could result in u-turns at Goden Street to accommodate entering vehicles traveling from the west if the median is not opened for full access.
- Tree removal along the median will be necessary should it be opened to provide full access.
- Pedestrian and vehicular safety may decrease with the additional u-turn movements along Concord Avenue.
- This option may require the removal of ADA accessible spaces along Concord Avenue.



MEMORANDUM

Option 3 – West of Cottage Street Location

Option 3 would locate the proposed site access point west of Cottage Street at the western edge of the site.

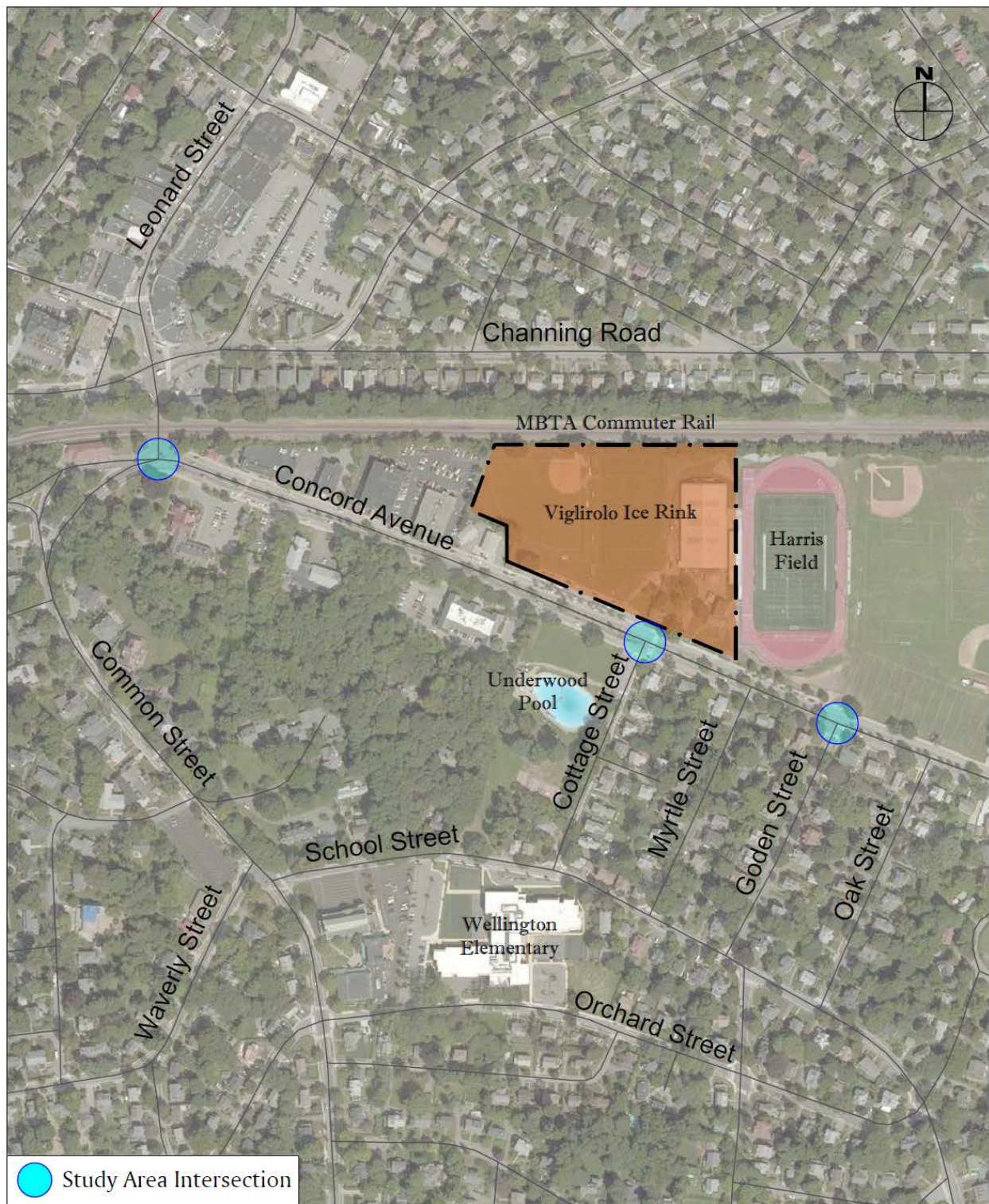
- This option also provides a good location for optimal site design by locating the driveway at the western edge of the site.
- The existing pedestrian signal at Cottage Street will not require modifications.
- Vehicular circulation will require u-turns west of Cottage Street along Concord Avenue to accommodate exiting vehicles traveling east if the median is not opened for full access.
- Vehicular circulation will require u-turns at Cottage Street to accommodate entering vehicles traveling from the west if the median is not opened for full access.
- Tree removal along the median will be necessary should it be opened to provide full access.
- Pedestrian and vehicular safety may decrease with the additional u-turn movements along Concord Avenue.

All options are not expected to have any material impact on the surrounding roadway network based on the operations analysis and the relatively low trip generation estimates.

Recommendations

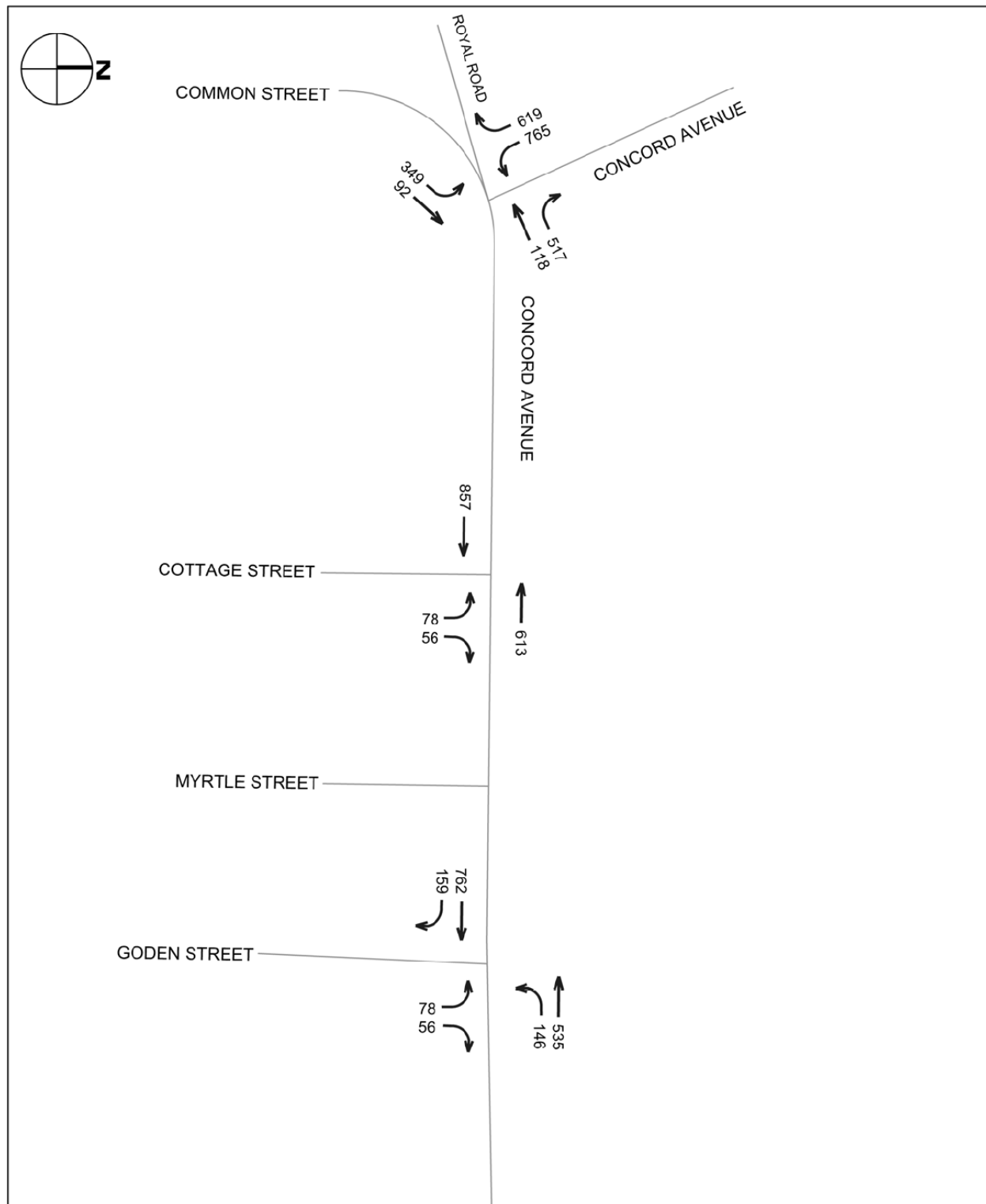
This evaluation provides a review of three options for site access for the Project. Based on the analyses and the information presented in this memorandum, the following recommendations are provided:

- Option 1 provides the safest and most efficient access to and from the site. While operations are not expected to vary much between options on a typical day, providing full access and allowing left-turns in and out of the site at an existing intersection will maximize efficiency during special events that may generate significant entering and exiting traffic.
- Options 2 and 3 should consider opening the median if either one is selected due to site constraints to eliminate the need for u-turns along Concord Avenue.
- The pedestrian traffic signal at Cottage Street should be interconnected with the proposed signal at Goden Street for all options.
- The Town should require the rink operator to provide traffic and parking management plans for special events.
- Shared parking with the high school site to the east should be strongly considered for overflow parking to eliminate impacts to on-street parking on the surrounding neighborhood street.
- This evaluation is intended to provide the Town of Belmont with information and guidance on the location of the driveway that will serve the site and should be revisited upon a preferred site design to ensure safe and efficient access is implemented.
- Changes to on-street parking regulations will not be necessary to support the Project other than the removal of parking spaces related to Options 2 and 3.



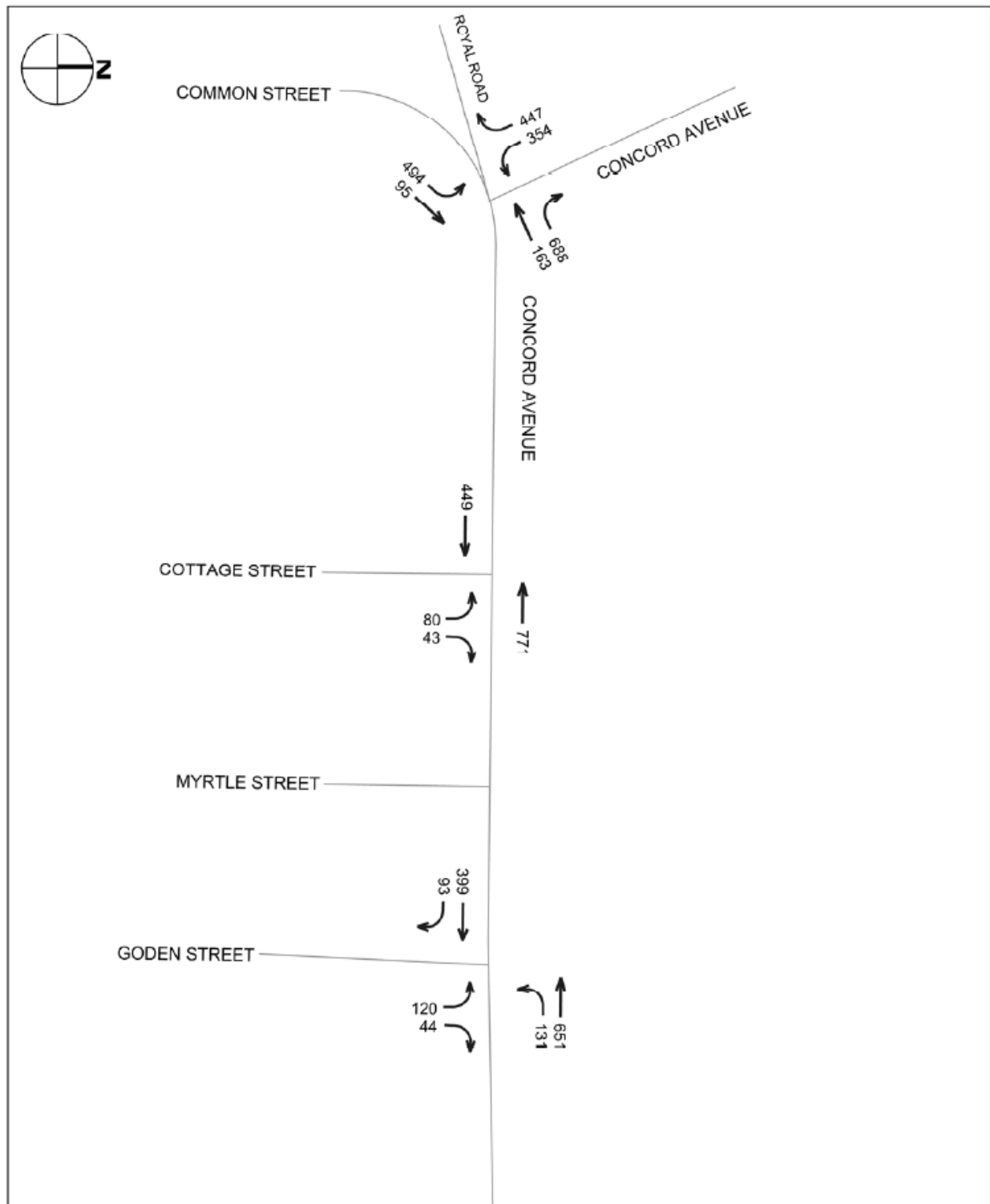
Project Locus Map
Belmont Ice Rink Study
Belmont, MA

Figure 1
Not to Scale
 **BSC GROUP**

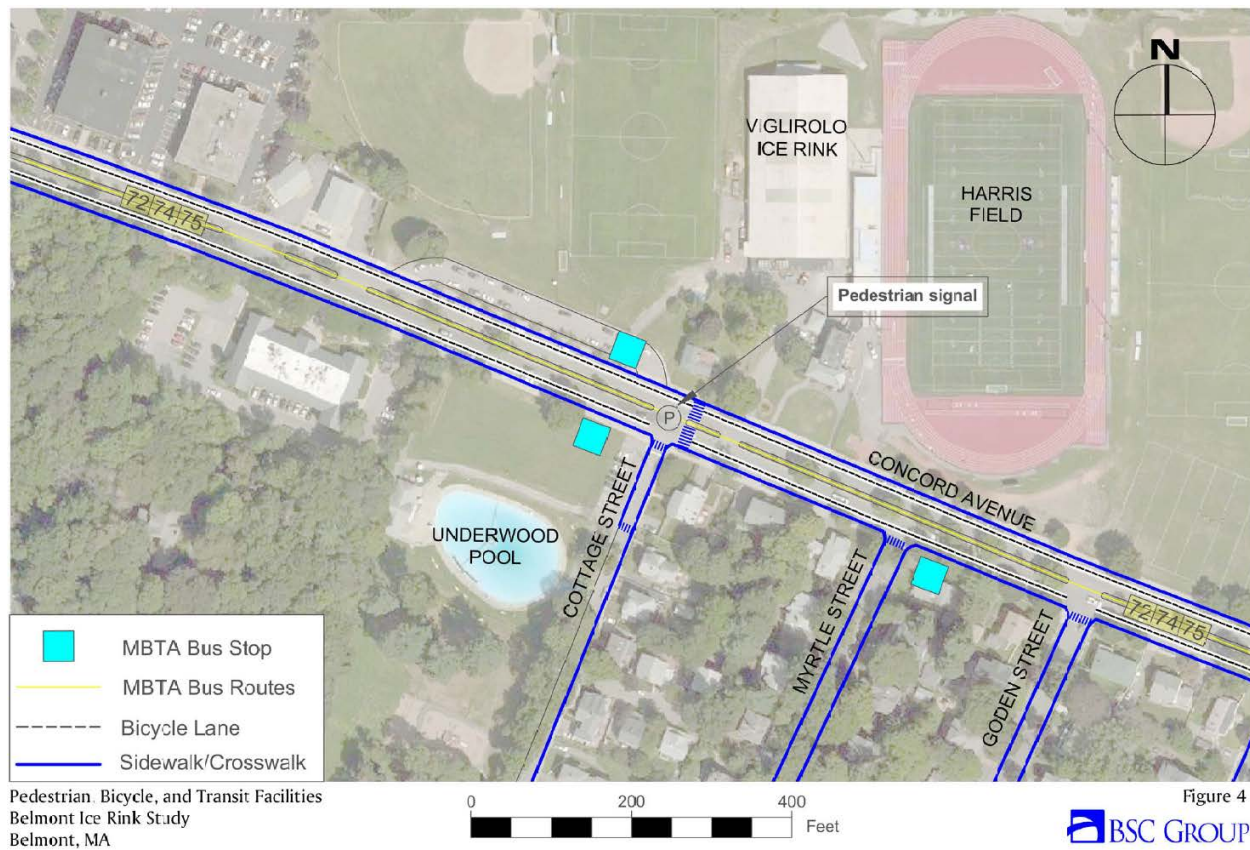


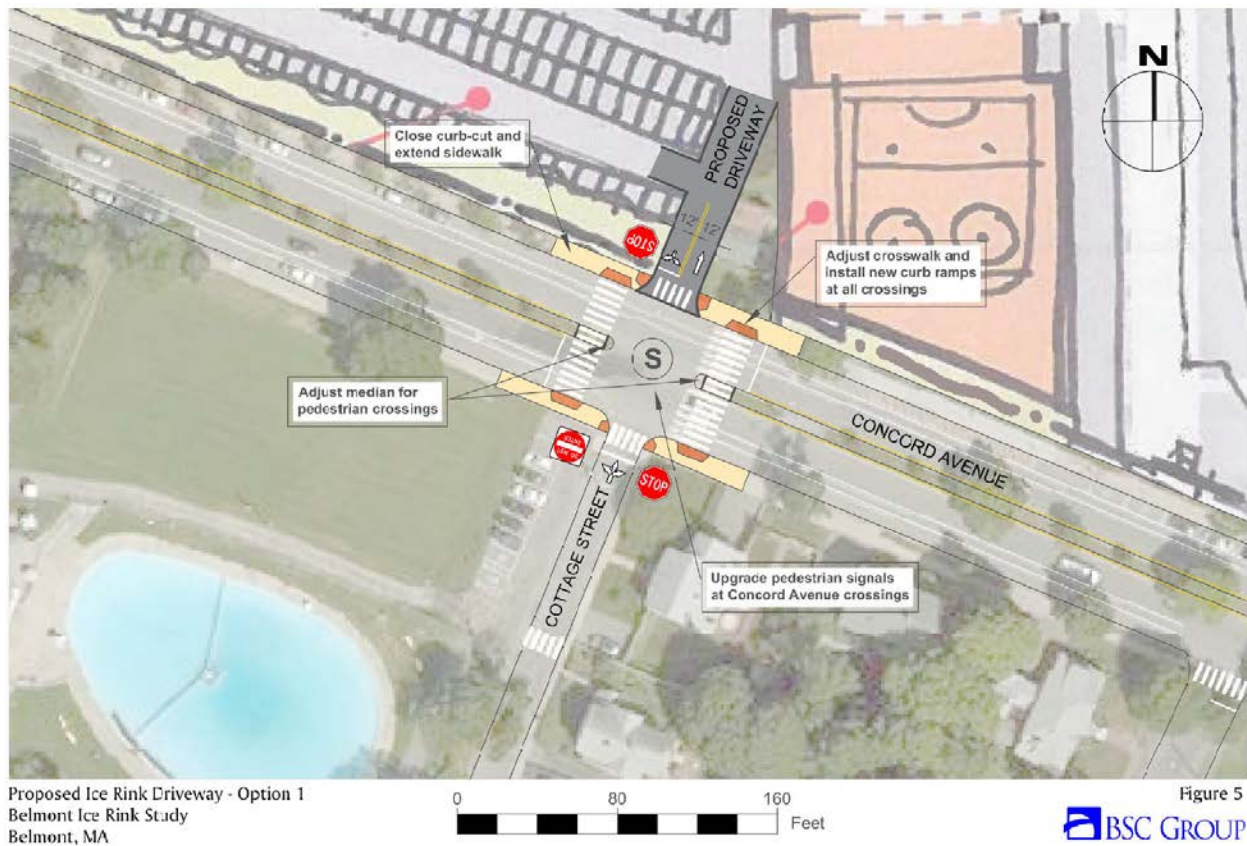
2019 Existing AM Peak Hour Traffic Volumes
 Belmont Ice Rink Study
 Belmont, MA

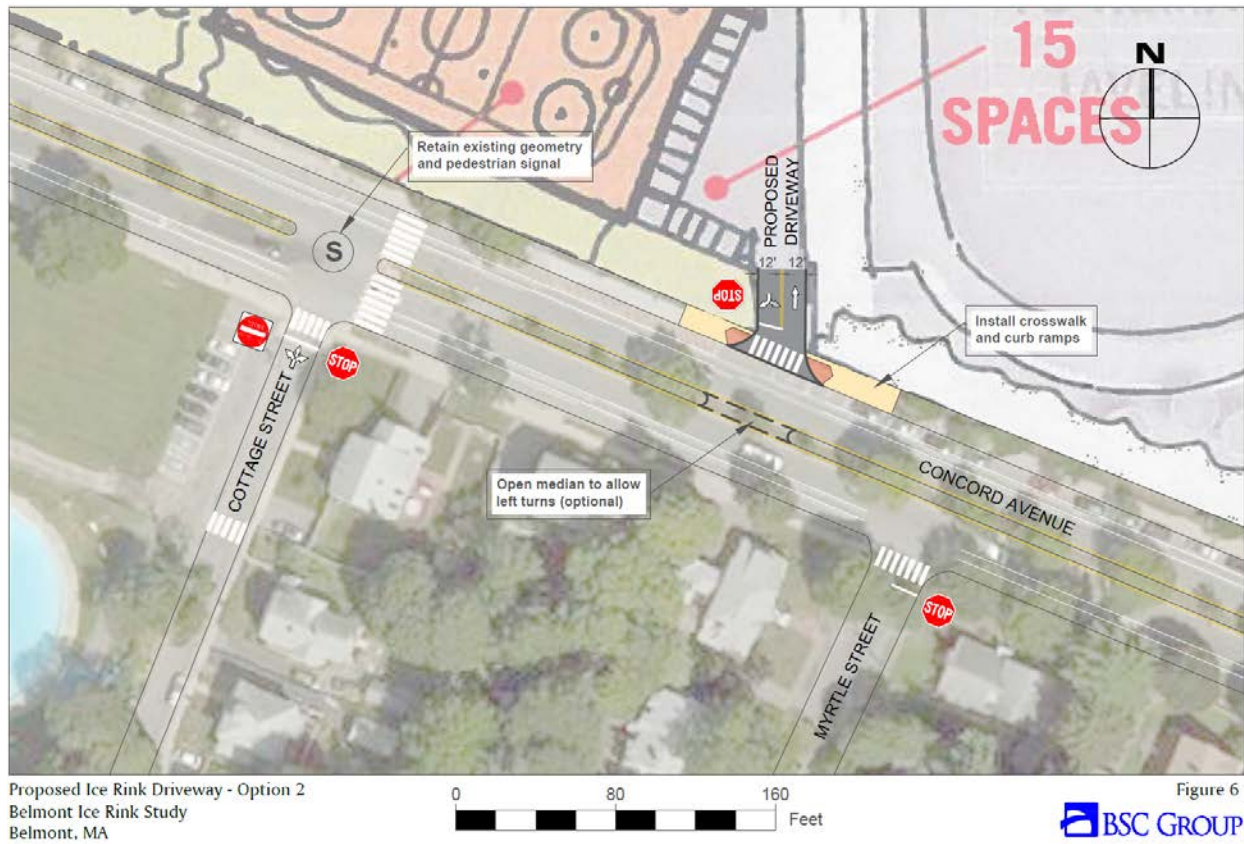
Figure 2
 Not to Scale

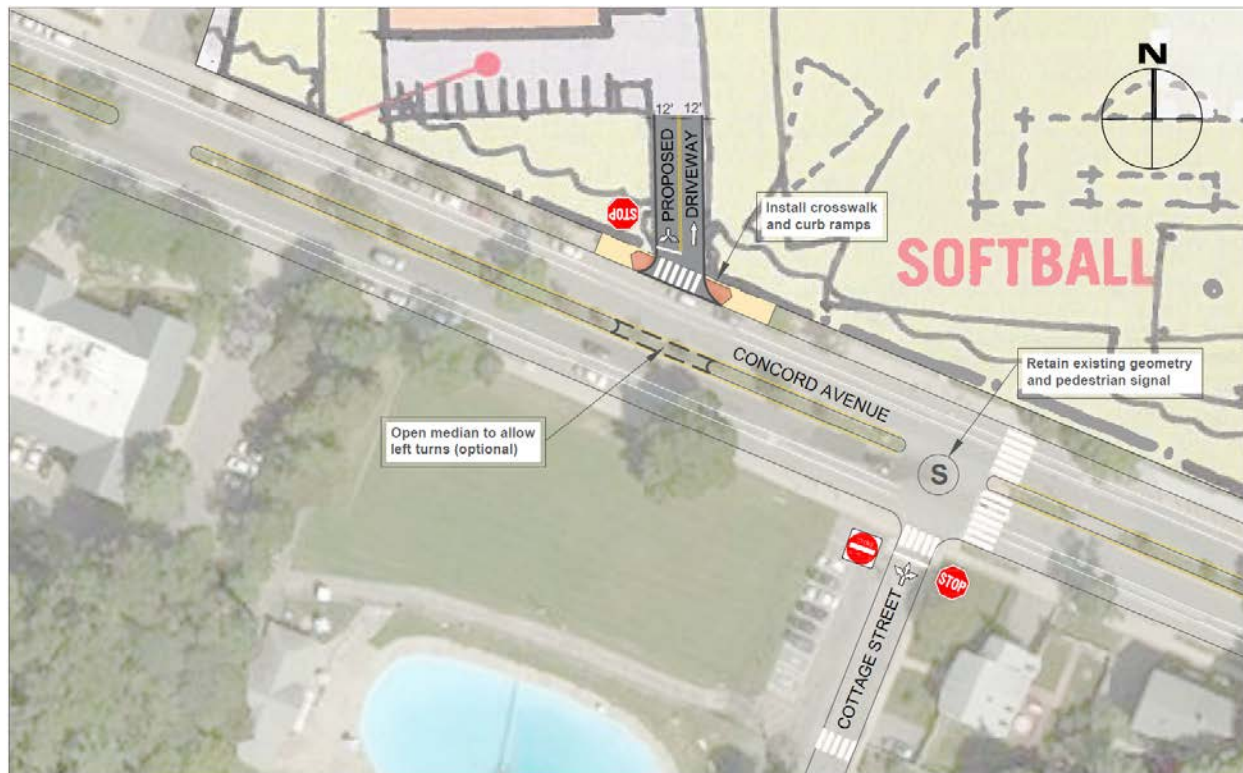


2019 Existing PM Peak Hour Traffic Volumes
 Belmont Ice Rink Study
 Belmont, MA





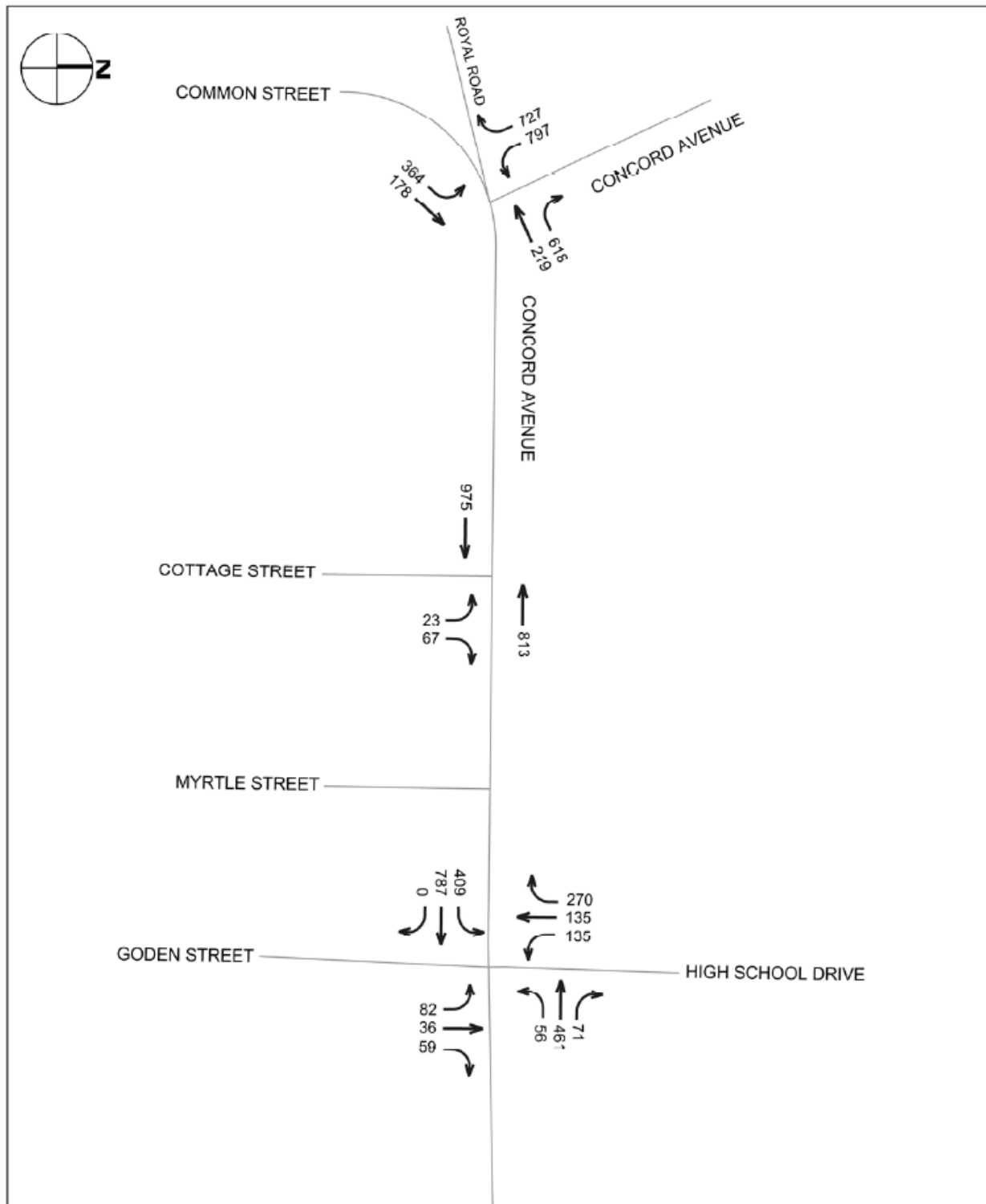




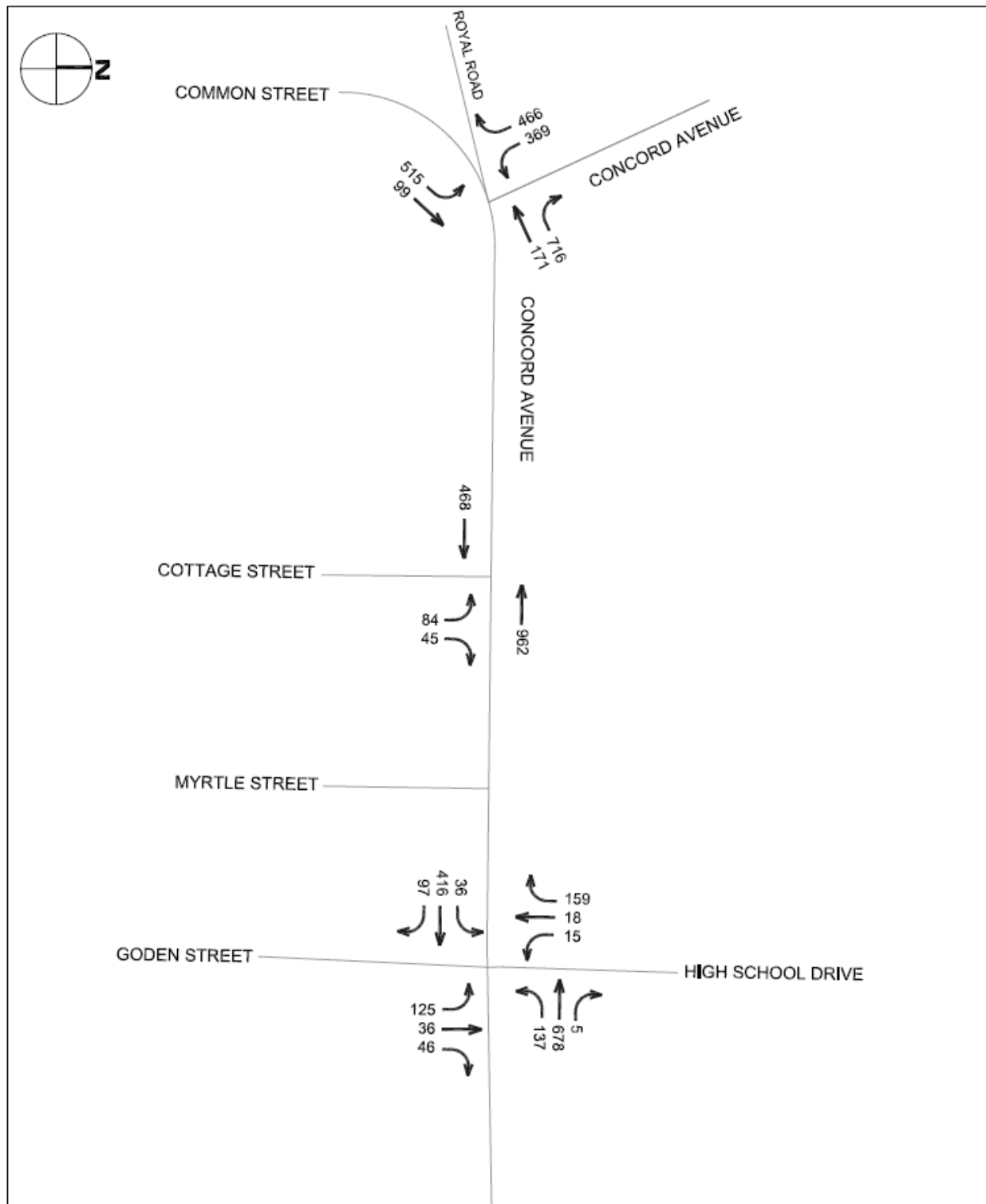
Proposed Ice Rink Driveway - Option 3
Belmont Ice Rink Study
Belmont, MA

Figure 7





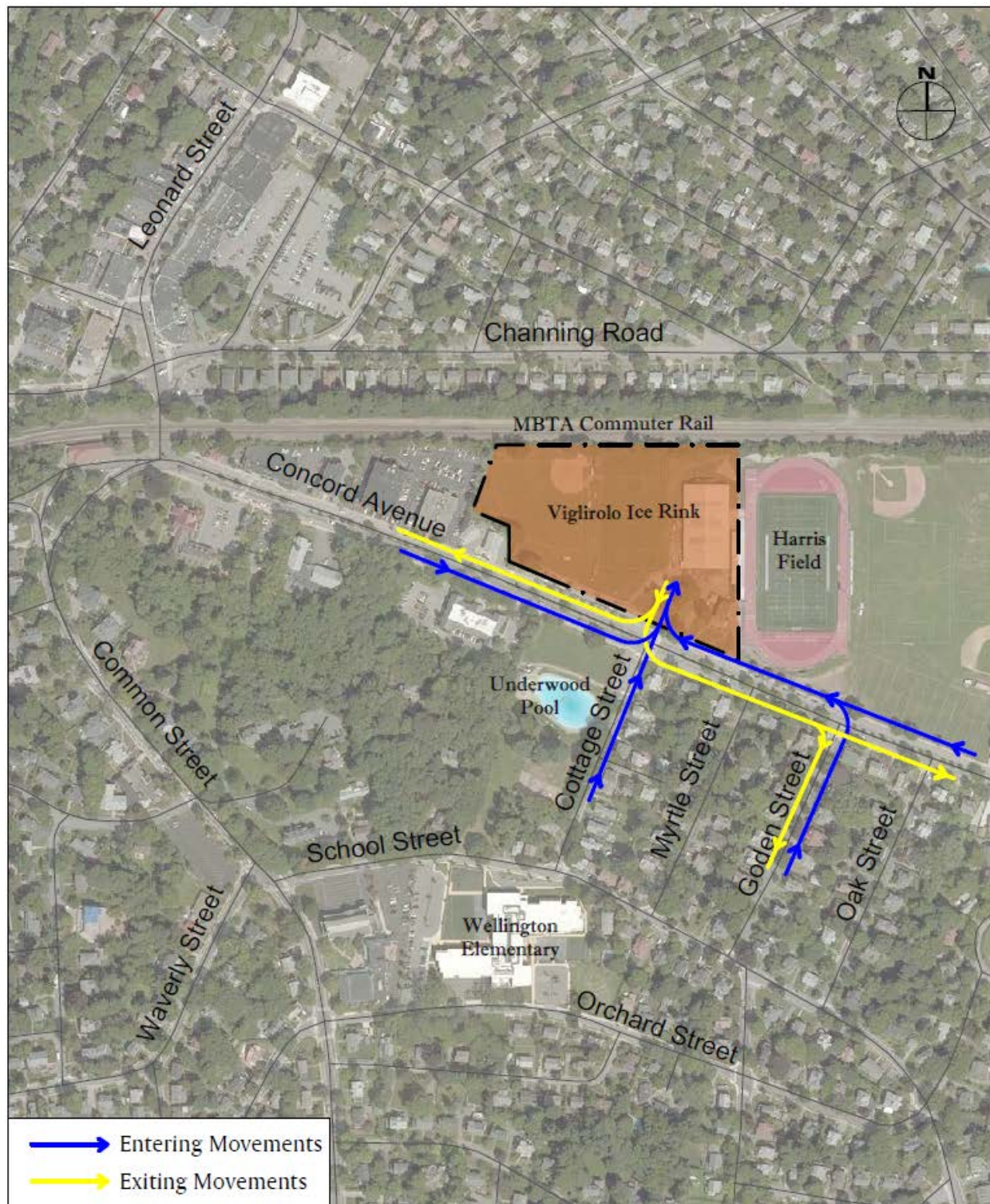
2021 No-Build AM Peak Hour Traffic Volumes
 Belmont Ice Rink Study
 Belmont, MA



2021 No-Build PM Peak Hour Traffic Volumes
 Belmont Ice Rink Study
 Belmont, MA

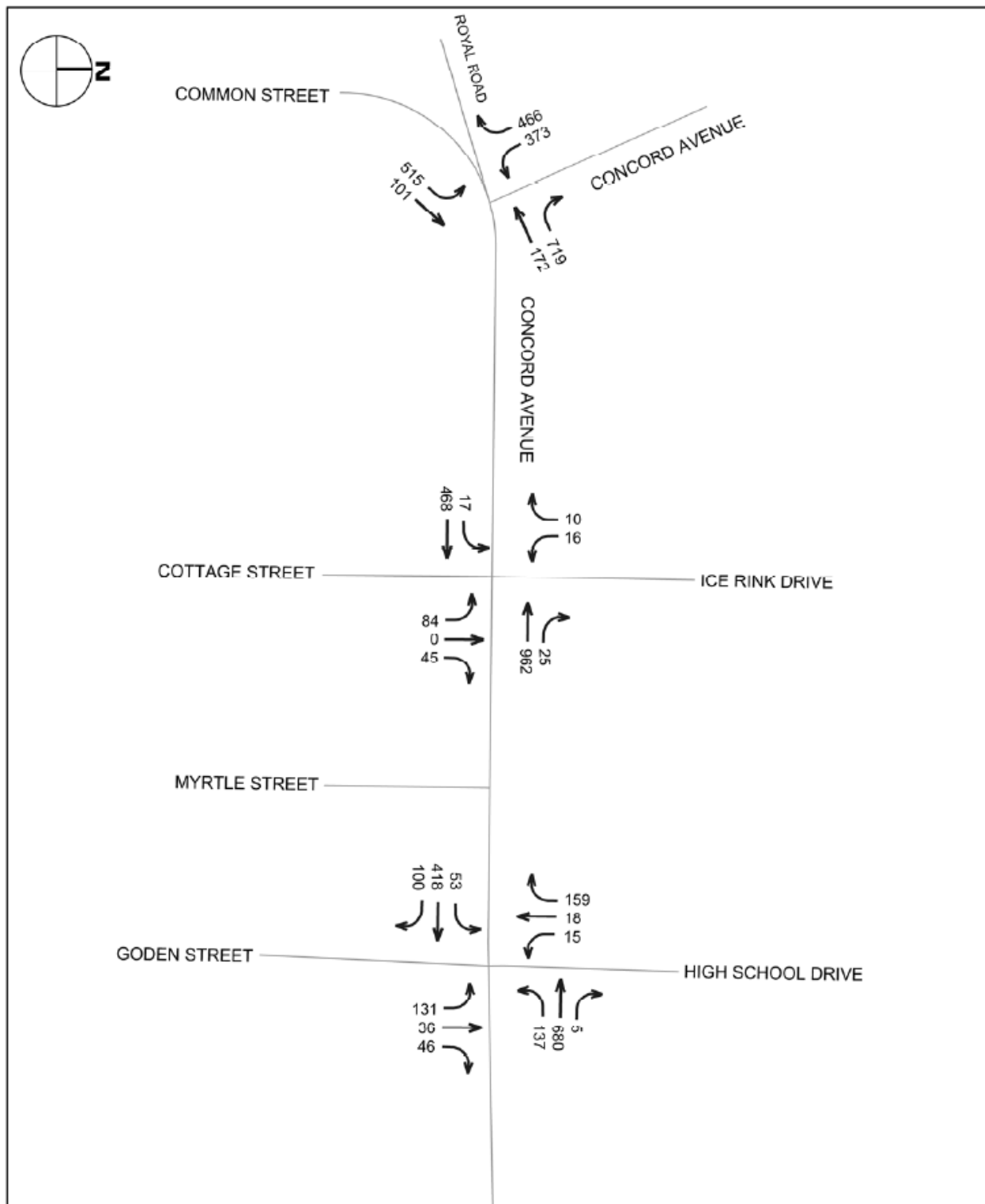
Figure 9
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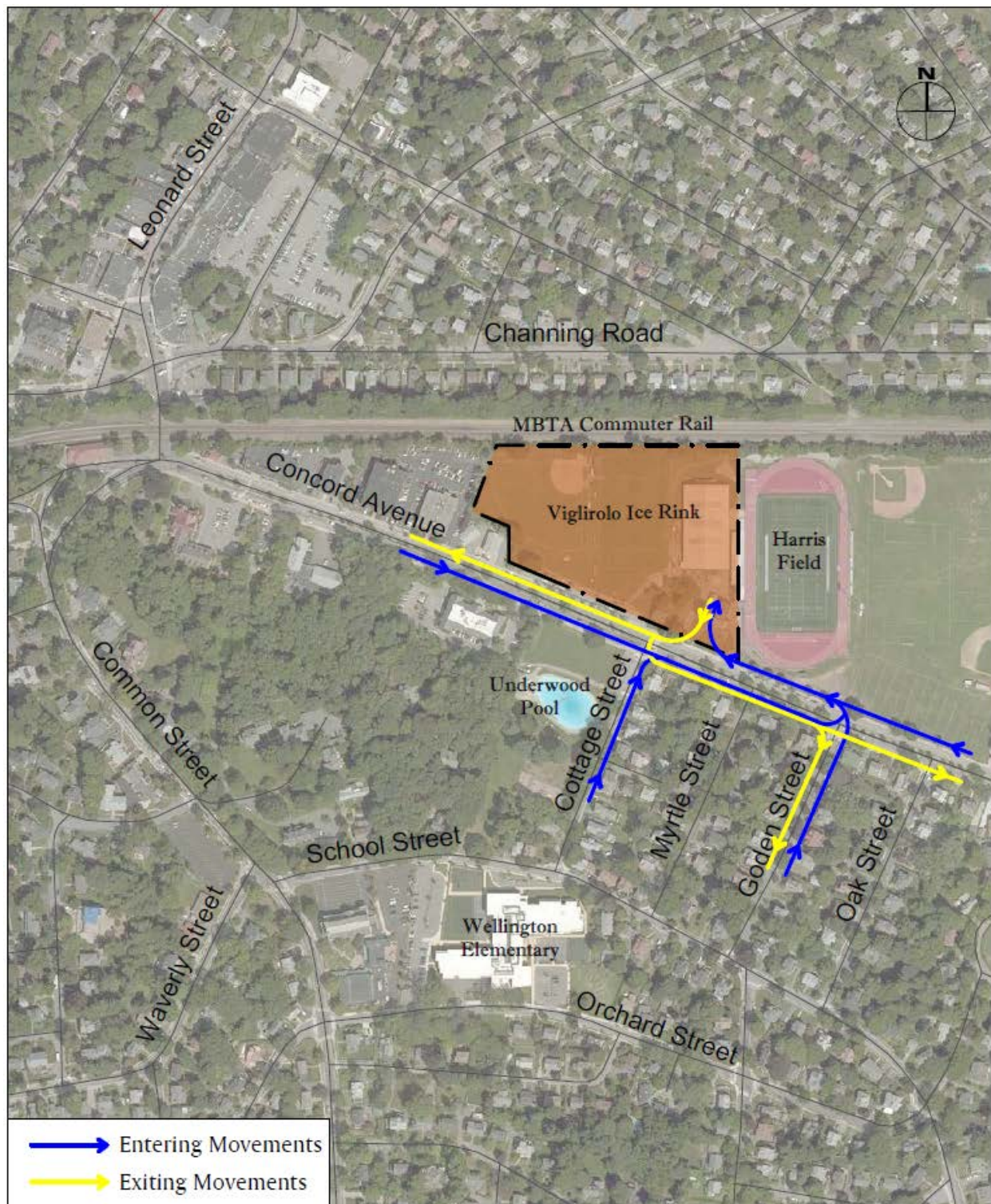
Access & Egress Movements - Option 1
Belmont Ice Rink Study
Belmont, MA

Figure 10
Not to Scale



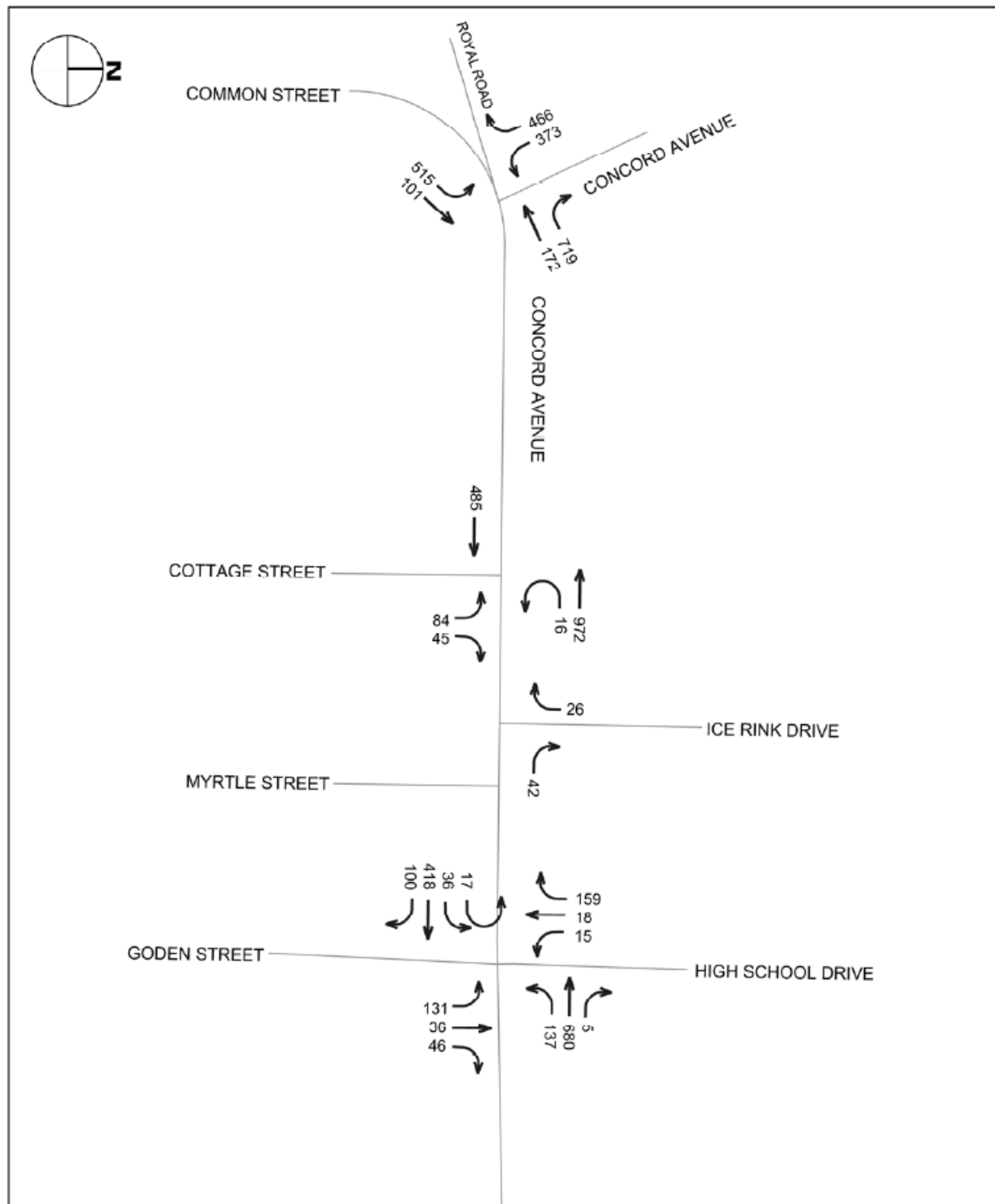
2021 Build PM Peak Hour Traffic Volumes - Option 1
 Belmont Ice Rink Study
 Belmont, MA

Figure 11
 Not to Scale



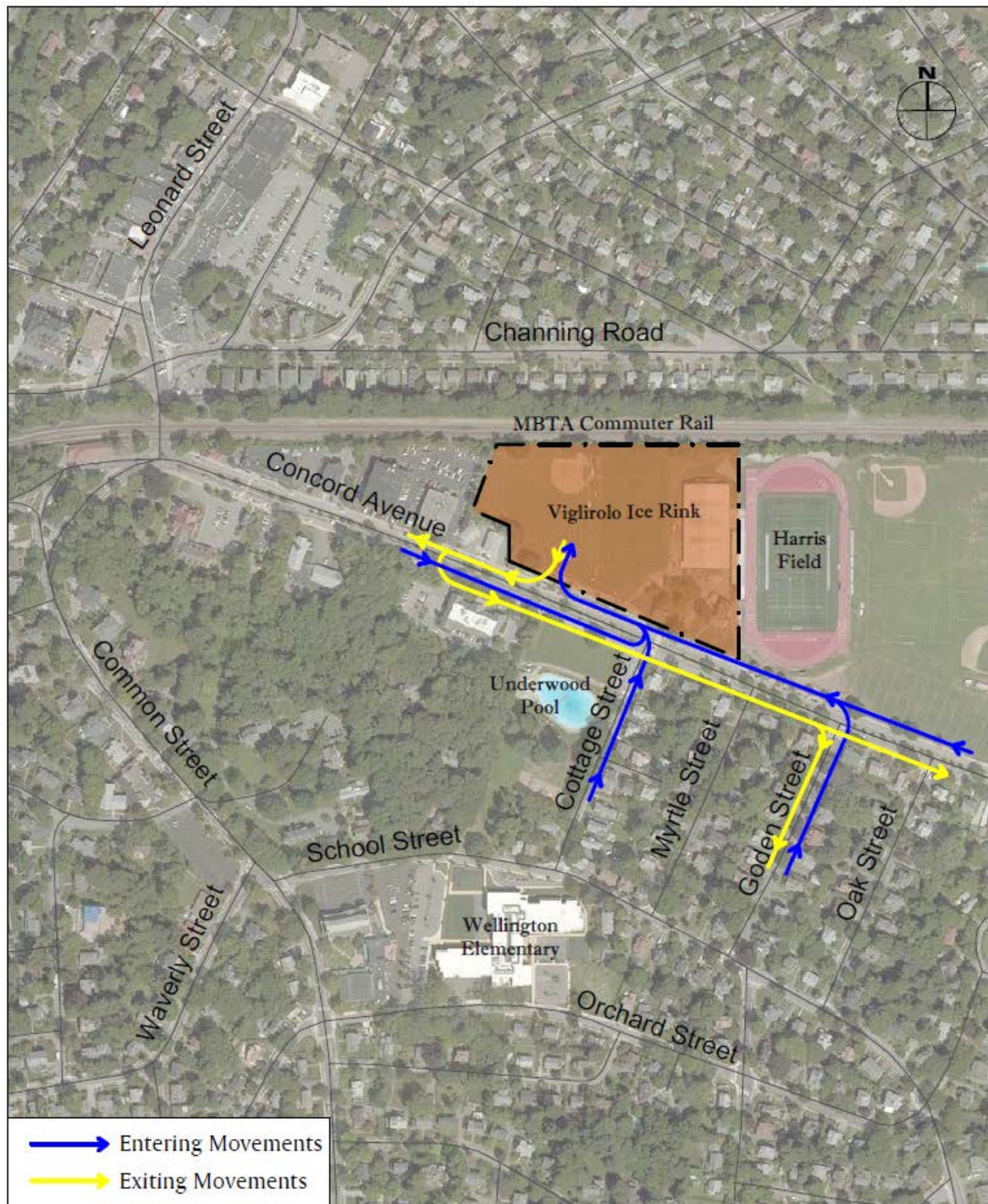
Access & Egress Movements - Option 2
Belmont Ice Rink Study
Belmont, MA

Figure 12
Not to Scale



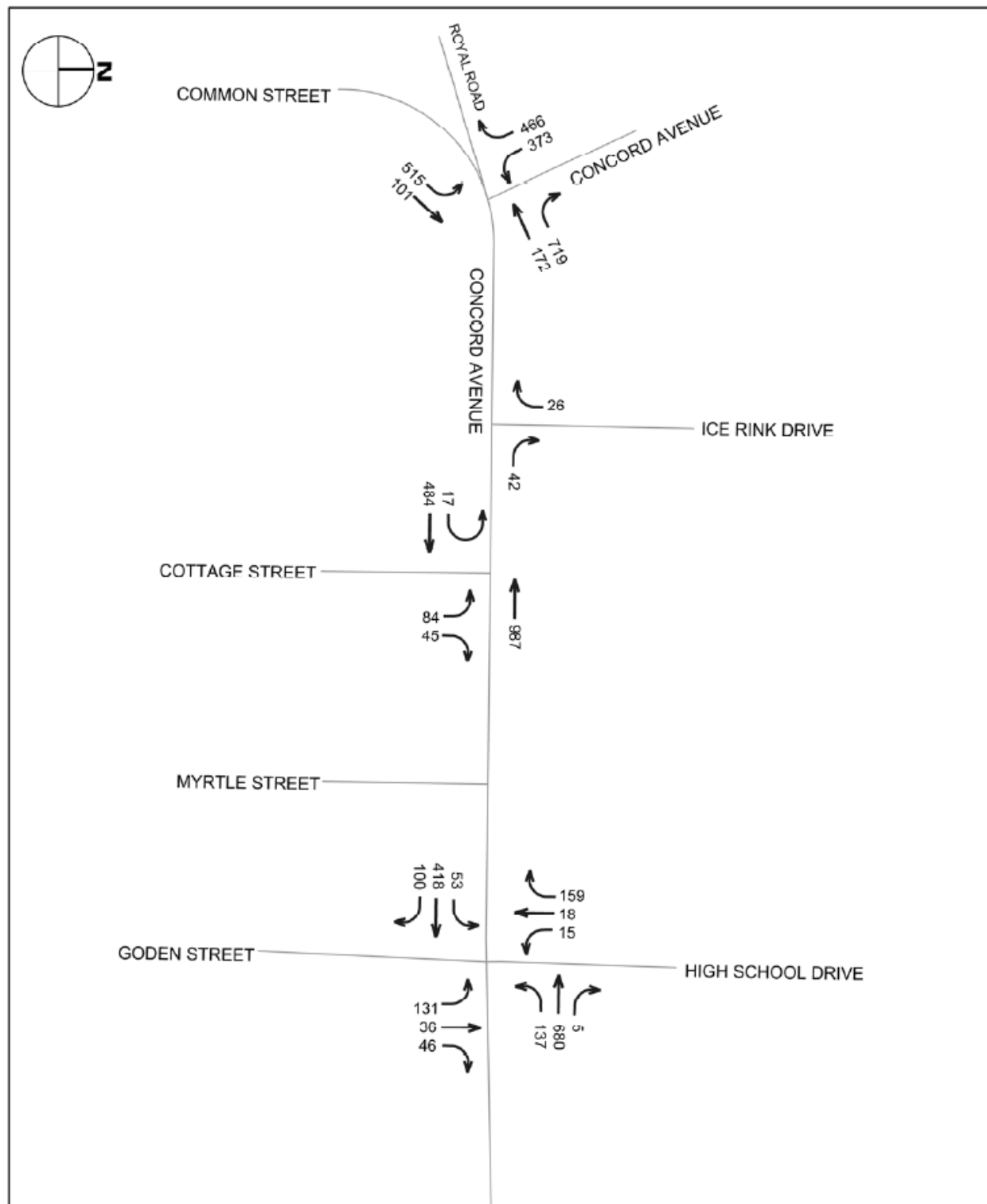
2021 Build PM Peak Hour Traffic Volumes - Option 2
 Belmont Ice Rink Study
 Belmont, MA

Figure 13
 Not to Scale



Access & Egress Movements - Option 3
Belmont Ice Rink Study
Belmont, MA

Figure 14
Not to Scale



2021 Build PM Peak Hour Traffic Volumes - Option 3
 Belmont Ice Rink Study
 Belmont, MA

Figure 15
 Not to Scale

APPENDIX G

REQUEST FOR PROPOSALS

GROUND LEASE OF PROPERTY FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF AN ICE SKATING RINK

DESIGN AND SITE PLAN REVIEW

(§7.3 of the Town of Belmont Zoning By-Law)

7.3.2 Applicability

The Planning Board shall hear and decide all petitions for Design and Site Plan Review in accordance with the provisions of this Section 7.3.

- a) Design and Site Plan Review is required for any new building, addition or change in use of a predominantly non-residential building greater than 2,500 gross square feet gross floor area in any zoning district, or a proposal that results in the need for six (6) or more parking spaces on the lot or if the proposal reduces the number of on-site parking spaces or changes to the configuration of off-street parking, screening, egress, utilities, drainage or lighting.
- b) For addition or alterations of less than 2,500 gross square feet, the Planning Board may waive any or all of these requirements.
- c) Design and Site Plan Review is not required for those uses which require a Special Permit (for use) from either the Planning Board or the Zoning Board of Appeals. If a Special Permit is required per Section 1.5 of these By-Laws, it shall be obtained prior to the submittal of an application for Design and Site Plan Review.

7.3.3 Application Procedures

Each application for Design and Site Plan Review shall be submitted to the Office of Community Development (OCD) during regular business hours and shall contain all of the information noted below. Applicants are encouraged to meet with OCD staff planners, abutters to the proposal and informally with the Planning Board to discuss the proposal prior to submittal.

- A completed application form and the applicable fees to address the administrative, advertising and review costs of the Town,
 - An original and thirteen (13) copies of the application package and plans, and
 - Site information as required in Section 7.3.4 below.
- a) Within ten (10) days of receipt of the application package, the Office of Community Development shall provide copies to the Board of Selectmen, Board of Health, Zoning Board of Appeals, Department of Public Works and the Fire and Police Departments requesting written comments prior to the hearing date. The application may also be provided to other appropriate boards or committees (the Traffic Advisory Committee or Conservation Commission for example). Comments received by OCD shall be made available to the Applicant upon request prior to the hearing.

- b) The Planning Board shall hold a public hearing within 45 days of OCD receiving the application. Notice of the public hearing shall be placed in a newspaper of general circulation, by posting at Town Hall and the OCD website at least seven (7) days before the hearing. Notice shall be sent by mail to the Applicant and abutters (within 300 feet) prior to the hearing date.
- c) Within 20 days following the close of the public hearing, the Planning Board shall act on the application. Approval shall require a majority vote of the five (5) members. The associate Planning Board member shall sit on the Board for the purposes of acting on a Design and Site Plan Review application, in the case of absence, inability to act, or conflict of interest, on the part of any member of the Planning Board or in the event of a vacancy on the Board. This time period may be extended at the request of the Applicant.
- d) The Design and Site Plan Review application shall be approved provided that all of the requirements of these By-Laws are fulfilled. The Board may attach reasonable conditions to any approval. An approval does not relieve the Applicant of the responsibility of obtaining other required approvals and/or permits from local boards, state or federal agencies.
- e) If the Design and Site Plan Review application does not conform to the requirements of these By-Laws, the Planning Board shall identify these deficiencies in writing and may deny approval. A new application and hearing process will then be required for further consideration of the proposal.
- f) Any appeal may be filed with Zoning Board of Appeals (ZBA) in conjunction with an appeal from the denial or grant of a Building Permit for the subject site.
- g) No Building Permit shall be issued to the Applicant (or his/her designee) until the Planning Board has filed its written decision with the Town Clerk or after 20 days has elapsed from the close of the public hearing without a decision being filed.

7.3.4 Design and Site Plan Review Submittal Requirements

Each application for Design and Site Plan Review shall include the following information unless, prior to submittal, the Planning Board has determined that certain materials are not germane to the decision being made, and authorizes their omission:

- a) Site plans at a scale of 1"=20' prepared and stamped by a professional engineer (P.E.) or a Registered Professional Land Surveyor (RPLS). (The Board may approve another scale or waive the PE/RPLS requirement in specific circumstances.) The plans shall show all new buildings, additions, adjacent structures, streets, sidewalks and crosswalks and all existing and proposed open spaces. Site development details shall include existing and proposed walls, fences, outdoor lighting, street furniture, new paving and ground surface materials. Points of vehicular and pedestrian access/egress shall be shown. All utilities, easements or service facilities, insofar as they relate to the project, shall be shown. Proposed site grading, including existing and proposed grades at property lines shall be shown.
- b) Building elevations or drawings shall be provided at a scale of 1/8" = 1' or other appropriate scale.
- c) A brief narrative describing the proposal and its potential impacts on its abutters and the neighborhood. The narrative should address issues such as the hours of operation, the

number of seats for restaurants, clubhouses, or places of public assembly, anticipated number and frequency of events at clubhouses, places of public assembly, or anticipated pupil enrollment and use schedule for schools for profit, number of parking spaces, the square footage of the site and buildings, and potential impacts on open spaces. For multi-family proposals the number, type and size of dwelling units should be discussed. The Planning Board may, at its discretion, require an estimate of municipal revenues and costs expected to be generated by the project, including anticipated real estate valuation and public service needs.

- d) The proposed method of stormwater removal accompanied by calculations for a 20-year storm event. All efforts shall be made to meet the most current Department of Environmental Protection Stormwater Management Design Guidelines.

7.3.5 Approval Guidelines:

- a) At its discretion, the Planning Board may require the completion of a Development Impact Report pursuant to Section 7.5 of these By-Laws prior to acting on the application. The Applicant may also be required to receive an Order of Conditions from the Conservation Commission and/or approval from the Board of Health prior to the Planning Board acting upon an application.
- b) The following criteria and requirements shall be fulfilled:
 - The dimensions of the proposed building(s), lot and lot coverage shall comply with the requirements provided in table form per Section 4 of these By-Laws,
 - The arrangement of parking and loading spaces, internal traffic circulation and traffic controls in relation to the proposed uses of the building(s) and adjacent uses shall comply with Section 5.1 of these By-Laws,
 - All Signs shall comply with Section 5.2 of these By-Laws,
 - All Landscaping requirements shall comply with Section 5.3 of these By-Laws,
 - The method to dispose of refuse and other waste if it is not within the structure shall be defined. Screening of exterior dumpsters or similar trash receptacles shall comply with Section 5.3 of these By-Laws, and
 - All Environmental Controls shall comply with Section 5.4 of these By-Laws.
- c) The Board may require that some or all of any conditions of Approval be secured by a deposit of money or an Irrevocable Letter of Credit in the Town's favor. This performance guarantee shall bear a reasonable relationship to the expected costs of completing the specified work being secured.
- d) Design and Site Plan Review Approval shall lapse if on-site construction is not commenced within two (2) years from the date of Approval. If the Approval lapses, a new submittal and hearing will be required.
- e) Upon completion of the project, the respondent shall submit "as-built" plans to Office of Community Development for review. Upon acceptance of the plans by Office of Community Development and the Planning Board, the respondent may submit a written request for a release of the performance guarantee. This provision may be waived by the Planning Board in certain circumstances.

APPENDIX H

REQUEST FOR PROPOSALS

**GROUND LEASE OF PROPERTY
FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF AN ICE SKATING RINK**

DRAFT LEASE

The draft lease is attached at the end of the appendices.

APPENDIX I
REQUEST FOR PROPOSALS
LEASE OF REAL ESTATE
FOR WIRELESS TELECOMMUNICATIONS FACILITY

DISCLOSURE STATEMENT

Under the provisions of
M.G.L. C. 7C, s. 38

This Disclosure Statement is made pursuant to the provisions of Massachusetts General Laws Chapter 7C, Section 38, which requires that where real property shall be rented or sold to, or rented or purchased from the Town of Belmont, this Statement, signed under the penalties of perjury, be filed by the licensee, lessor, lessee, seller or purchaser (as the case may be) with the Massachusetts Commissioner of Capital Asset Management and Maintenance.

Such agreement to sell or lease shall not be valid, nor shall any payment be made thereunder, until the parties have fully complied with this Section 38.

1. The real estate matter to which this Statement is made is:

2. The true names and addresses of all persons who have or will have a direct or indirect beneficial interest in said property are as follows, identifying any such person who is an official elected to public office in the Commonwealth of Massachusetts and the office held.

3. During the term of a rental agreement, any change of interest in such property shall require full disclosure under this Section 38.

APPENDIX J

REQUEST FOR PROPOSALS

**GROUND LEASE OF PROPERTY
FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF AN ICE SKATING RINK**

STATEMENT OF TAX COMPLIANCE

Pursuant to M.G.L. Chapter 62c, Section 49A, I certify under the penalties of perjury that this firm, to the best knowledge and belief, has filed all State Tax returns and paid all State Taxes required under law.

Federal Identification Tax Number

Name of Entity submitting proposal, whether individual, partnership, corporation, joint venture or other business or legal entity.

Type of Entity

Address

Telephone

By _____
Authorized signature of entity submitting proposal

Signer's duly authorized position, office or title

APPENDIX K

REQUEST FOR PROPOSALS

**GROUND LEASE OF PROPERTY
FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF AN ICE SKATING RINK**

CERTIFICATION OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Date

Name of Entity submitting bid, whether individual, partnership, corporation, joint venture or other business or legal entity.

Type of Entity

Address

Telephone

By

Authorized signature of entity submitting proposal

Signer's duly authorized position, office or title