

SCHEDULE B

Stadium Site Planning Assumptions and Site Plan Revisions



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August 16, 2019

Roger Porter
Director, Atlantic Canadian Pursuits and Preconstruction
EllisDon Corporation
7071 Bayers Road, Suite 5007
Halifax, NS, B3L 2C2

Dear Roger,

RE: Shannon Park Stadium Assumptions and Site Plan Revisions

Following our report submittal on July 12, 2019 containing a narrative of assumptions and site plan revisions, our team has carried out some additional coordination with the WSP consultant team coordinating with Canada Lands Company on the Shannon Park Plan. The attached is the revised report

The first revision can be found in Section 1.2 where the estimated peak flow rate for water and sanitary has been adjusted to reflect the Atlantic Canada Wastewater Guidelines. The former flow rate was derived from the National Plumbing Code.

In our second revision, we have assessed the site capacity further and have concluded that there is room for a driveway to the east of the stadium to house buses on game day. This driveway would not be a public street. We have reviewed with CN Rail and the entries to the driveway cannot be closer than 30m from the rails. We also have provided a more detailed analysis of bus, vehicular and pedestrian traffic north of the stadium and have made the resulting refinements to this area. Lastly, we have revised the loading to be accessed from the stadium site, and not the public street. These changes are reflected in the revised site plan diagrams in Section 3.0.

Sincerely,

A handwritten signature in black ink that reads 'Anna Sampson'.

Anna Sampson, NSAA, AANB, NLAA, MRAIC, LEED® AP BD+C
Architect, Atlantic Region Practice Leader, Sports and Entertainment

Attachments:

Stadium Planning Preliminary Assumptions – R1
Principles of Shannon Park and the Stadium
Revised Concept Stadium Site Plan – R1

cc:

All those copied on the original report

1.0 SHANNON PARK STADIUM PRELIMINARY DESIGN ASSUMPTIONS – R1

1.1 OVERVIEW

This document contains assumptions based on information gathering, research and comparison to similar stadia facilities developed by A49 and WSP. As such, please note that this is preliminary, and until detailed design takes place, the information provided is subject to development and change.

The assumptions are based on a stadium with a program as described herein and provided by Schooners Sports and Entertainment. The new stadium would have the capacity of approximately 24,000-26,000. The west side of the facility will be permanent and will have approximately 12,500 seats, and an additional 1150 of premium seating. The east side of the stadium will house approximately 9,000 general assembly seats in semi-permanent bleachers. Additional temporary seating or standing zones at the north and south will add approximately 3,500 seats to the capacity.

An air supported structure or “winter dome” will be provided to allow the facility to be open and programmed year-round.

The stadium has potential for many forms of flexible programming for sports, entertainment and cultural events. Those currently identified include:

- 9-10 home football games per year
- Potential for 1-3 additional playoff games
- Anticipated 1500 hours or 300 days of Sport Nova Scotia member organizations use per year.
- 1-2 large concerts per year (20,000 – 30,000 patrons)
- 5-10 “half house” configuration concerts per year (10,000 – 15,000 patrons)
- Festival style show once every two years (10,000 – 15,000 patrons/day over 2-3 days)
- 3-5 large-scale community programming events/year (cultural festivals, trade shows etc.)
- 10-15 recurring small-scale programming events (farmers markets, etc.)

1.2 CIVIL ENGINEERING ASSUMPTIONS

As it relates to water and sanitary, WSP has assumed an estimated peak flow rate = 33 L/s (1,600 USgpm). The following are peak flow assumptions for stormwater:

- 1:5-year peak flow = 1.37 m³/s
- 1:10-year peak flow = 1.53 m³/s
- 1:25-year peak flow = 1.67 m³/s
- 1:50-year peak flow = 1.82 m³/s
- 1:100-year peak flow = 2.13 m³/s

This information is based on additional assumptions including:

- Fully developed uncontrolled flow for all storm events
- A piped system will be designed for a 1:5-year minor event to convey flow across Millbrook Lands (with appropriate easement negotiation by the Owner).

- An overland flow route will be designed for major events up to Millbrook Lands.
- Stormwater detention this close to the harbour is not recommended and would be very costly.
- Downstream Millbrook Lands design (by Others) will accommodate our requirements.
- HRM/Halifax Water will accept these assumptions. If not, the piped system could be designed for a higher level of service.

1.3 TRANSPORTATION ASSUMPTIONS

The following are WSP's transportation assumptions related to peak use events at the stadium including full capacity (24,000) football games on Friday night, Saturday afternoon or Saturday evening. It is assumed that additional large events (concerts) would occur during weekday evenings.

- Approximately 420 parking spaces are included in the immediate area.
- No trips by a direct ferry or light rail have been assumed.
- Significant volumes of pedestrians are likely to walk to the remainder of Shannon Park, Highfield Park, the Bedford Institute of Oceanography parking lot, and the Downtown Dartmouth area.
- Approximately 340 buses (tour buses from outside of HRM as well as Halifax Transit, Stock and private providers) will enter and exit the site during the peak hours before and after the game.
- It is likely to take about 2 minutes to unload and load a bus.
- Given the high bus volumes required and the heavy pedestrian flows, there is a desire to provide separation between pedestrian and transit flow routes.
- Many drop-offs, pick-ups and taxi trips will be made outside of Shannon Park, along Windmill Road.

1.4 ELECTRICAL ASSUMPTIONS

WSP estimates a preliminary electrical demand for the stadium of approximately 3000kW. This translates to a 3600A service at 600V, or possibly 2 x 1800A services, if allowable by Nova Scotia Power.

2.0 SHANNON PARK DESIGN PRINCIPLES

2.1 OVERVIEW

The revised site plan found in Section 3 of this document is consistent with that presented by WSP and Dialogue as the preferred concept in the document titled "Shannon Park Master Plan Revision Community Stadium Consideration" prioritizing the delivery of the Shannon Park Design Principles including vibrancy, public realm, waterfront access, land use and built form, commemoration and mobility.

Given the significant number of buses required to move people to and from the stadium, positioning these buses to the west of the building where pedestrian movement would naturally

intersect, will drive a need for additional infrastructure to move pedestrians over the bus route, and for very significant traffic control operations.

2.2 VIBRANCY

The Shannon Park stadium would be used year-round by a variety of local sport organizations. In addition, it will provide an attractive venue for community and cultural events and festivals. Users will include people of all ages, families, youth and adult sport and recreation organizations. Many of these people will live in the community, but others will come from elsewhere, to use the facility, and to spend time in the community parks, restaurants, shops and entertainment venues. Given the size and scale of the stadium, and the number of people who will frequent the facility, it will become an integral part of the community and must be planned as such.

The permanent, active portion of the stadium facility is located on a north/south street, maintaining activity at the street where the facility will get frequent day and evening use. The west grandstand structure will stand out as a vivid and identifiable landmark on the shoreline and city skylines. This building will house various functions such as administrative offices, dressing rooms, and support spaces for the stadium, which architecturally can provide a more human scale to an otherwise large scale structure. The concourses can also be open and transparent, providing visual connection to the action within the stadium. The lesser-used, temporary seating is located at the east side of the site, adjacent the railway corridor. This temporary seating arrangement provides an opportunity for unique temporary services interventions. The spaces around and underneath the temporary seating can contain space for food trucks and shipping container constructions to house food and beverage vendors and other services. A plaza to the south has great potential to act as an urban park, welcoming those entering Shannon Park from Windmill Road, and forming part of the public realm described in the following section. Parking to the north of the stadium is kept at a minimum, and maintains development on Princess Margaret Road as the face of the development. Pedestrian movement through the parking lots is facilitated by a dedicated landscaped walkway on axis with the centre of the stadium field and the framed vista of Halifax and the harbour in the distance.

2.3 PUBLIC REALM

The stadium site has been planned to maintain the park space, which has been developed over time by Canada Lands Company in consultation with its stakeholders and including public engagement. It enhances outdoor park space by providing a generous urban plaza that will facilitate game-day pre-events, but on most days will provide the community with park space, or programmable outdoor event space for activities such as outdoor markets, art shows, or live music.

The pedestrian streetscape is prioritized in the proposed stadium plan. Pedestrian movement fronts onto the facility's west side, where its entrances and street level amenities would be located, and the south side, where an urban park and plaza facilitates pedestrian movement east-west.

On event days, control of pedestrian movement will be managed through event-day operations to avoid conflicting pedestrian, car and bus paths – both of which will be critical in moving large crowds

from the stadium. The north/south road to the west of the stadium will play a critical role in bussing people away from the site.

The proposed Shannon Park trail system would be maintained with the revised configuration. See diagram 3.

2.4 WATERFRONT ACCESS

Waterfront access is maintained along the north/south corridor on the west side of the stadium. See Diagram 1. The stadium would provide visual connectivity from the stands to the waterfront and Halifax Skyline; this provides visual orientation and facilitates the public's ability to navigate from within the stadium to the surrounding street network by proving a reference point.

2.5 LAND USE AND BUILT FORM

A stadium is a unique building type offering a multi-functional venue for recreation, commercial, educational, cultural and entertainment opportunities to the local community and those who visit the community. It is a different land-use than was in previous plans for Shannon Park. Should the same density be maintained with the addition of the stadium, this will impact the built-form of the development whereby commercial and residential development will be shifted elsewhere on the site.

The stadium itself will provide a significant landmark within the community due to its scale and its large orthogonal form will reinforce street edges and directionality within the overall development. It will also be a visible landmark from across the water and from the bridges, linking this precinct to the surrounding city from many vantage points.

2.6 COMMEMORATION

The stadium site and building will provide ample opportunities to reflect the history of the community. The public urban plaza to the south of the stadium is adjacent Millbrook First Nations lands and offers opportunities to program the area with art installations and gathering spaces informed by their history, traditions and culture. The stadium itself will be a prominent venue and backdrop for sharing the history of Shannon Park, which can be investigated further in the detailed design of the building and site.

Historically, the sporting community has been widely supportive of commemorating history. The CFL hosts games that honour military personnel, local and national charities, and former athletes.

2.7 MOBILITY

Mobility is maintained for the development by the presence of the north-south road. Game or event-day operations of this north-south road will drastically change to accommodate the arrival and departure of 24,000+ people; however, this will only be a handful of days throughout the year. There has been a significant amount of thought given to circulation and movement of people in the different scenarios associated with the proposed stadium. The revised plan attempts to address movement through all modes, including cars, taxis, buses, service vehicles, bicycles, pedestrian movements on a day to day basis, as well as special event days.



Diagram 1:
North-South Connection

Diagram 2:
Vegetation Buffers

Diagram 3:
Pedestrian Connections

3.0 REVISED CONCEPT STADIUM SITE PLAN – R1

3.1 OVERVIEW

Guided by the preferred concept in the document titled “Shannon Park Master Plan Revision Community Stadium Consideration”, we sought to verify the functionality of the stadium on regular days and event days, in particular focusing on conditions required for transportation on event days. Given the need for onsite queuing of transit vehicles, we have sought to accommodate several internal loops of transit within the site. As it is expected that well over 10,000 attendees will arrive and depart each game by transit, this level of transit requires significant areas for both passenger waiting as well as bus queuing. The loading and unloading of buses requires that the curbs along the stops be high backed, and positioning of trees or other streetscaping features in those areas must be strategic, as they would impede access for these substantial passenger volumes to the buses, as well as reduce the passenger waiting area.

The inclusion of two transit loops onsite allows for progression of the transit vehicles, dispersal of transit users upon leaving the stadium, and minimized delays if transit vehicles are impeded by mixed traffic or pedestrian crossings. One of the transit loops has been routed to exit the site at the roundabout. It is anticipated that left turns from the north-south roadway onto Princess Margaret Boulevard will likely be restricted and that any buses crossing the rail tracks may have to stop at the tracks prior to crossing, impacting the flow during these busy periods.

The loading bays and service areas are critical functions of any stadium and are only practical when located adjacent the spaces they serve. To mitigate their visual and operational impact on the north/south street, they have been located to the north side of the west portion of the building, where a buffer can be created to mitigate their visual presence to the proposed development and existing school yard to the west. A driveway accesses the parking lot to the north of the stadium. Service trucks can back into the service bays from the parking lot, but will not be required to back in from the street. Smaller delivery and media trucks can use this route in a forward direction until they reach the west side of the building, where they can back in from the west side parking lot.

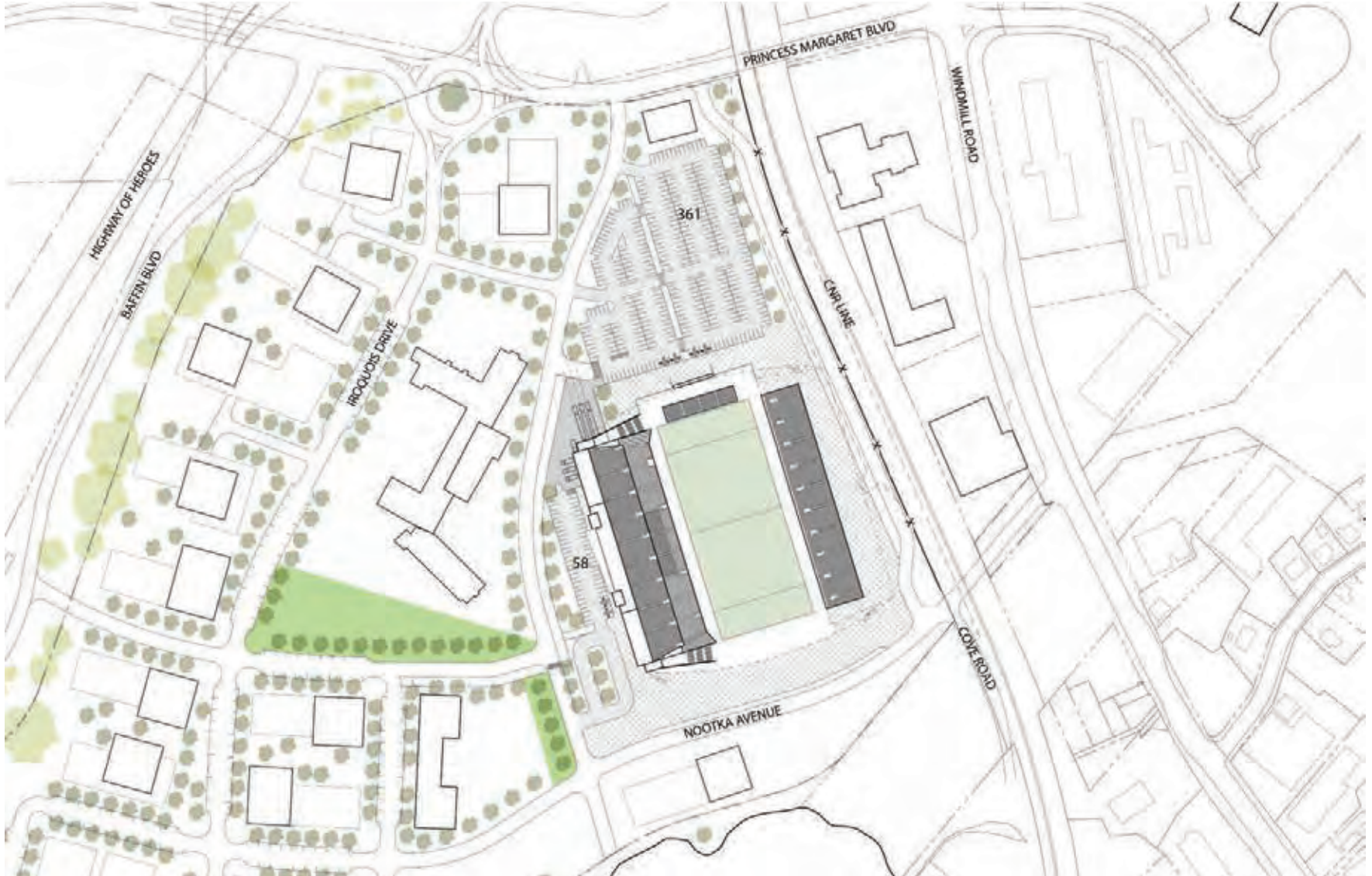


Diagram 4 - Stadium Site Plan at Shannon Park

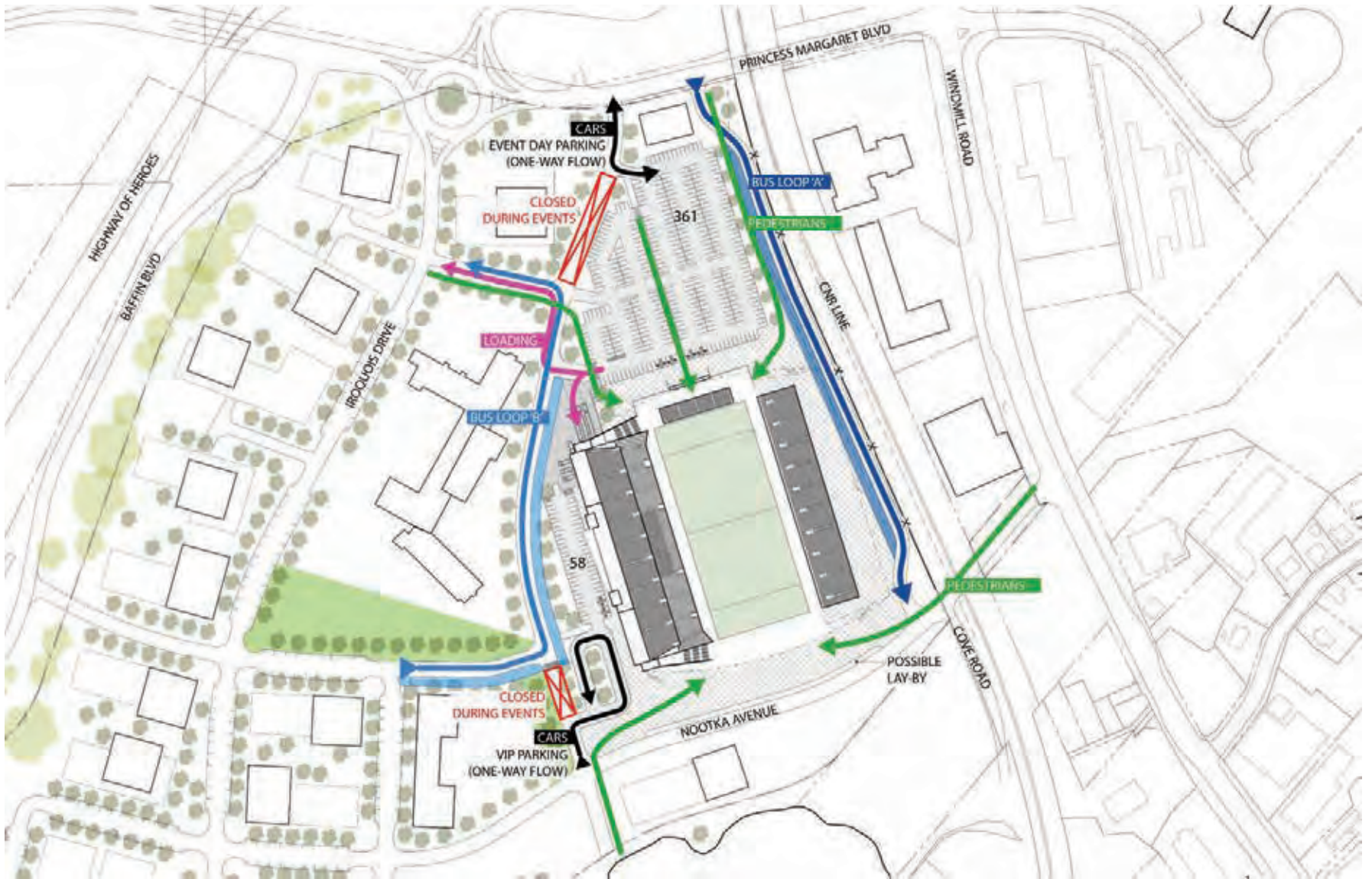


Diagram 5 - Event Day Traffic Movement at Stadium



Diagram 6 - Stadium Site Acreage