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A. EXECUTIVE SUMMARY

The Cloverdale Fairground Concept Plan provides guidance in revitalizing an 88-acre, City owned site in Cloverdale. The goal of the master planning exercise is to develop a plan that accommodates a range of uses that increases the profile of the site as a regional attraction, in order to support the economic growth of Cloverdale and Surrey. At the same time, the Plan recognizes the need to provide Cloverdale with enhanced community amenities and facilities.

The primary intent of the Plan is to ensure that the potential facilities placed on the site, the parking and other public amenities may be accommodated within a cohesive environment. In this context, the siting, size and configuration of the individual buildings are conceptual and could be reconsidered in the future during the design stage, while maintaining the planning principles and place-making guidelines.

The study considers all the existing uses on the site, as well accommodating a series of potential new uses that will support the regional focus of the Plan and complement the existing community uses. Potential new uses include:

- Trade & Exhibition Centre
- Tourist Kiosk
- Hotel
- 5500 seat Spectator Arena

New community based facilities that may be accommodated in the Plan include:

- Multipurpose Community Centre
- Future Recreation Amenity
- Heritage Plaza

While these facilities were identified as possible uses, none of them have received approval from City Council. Implementation of any aspects of this Plan will require City Council review and ratification.

The redevelopment of the Fairgrounds site will likely take place in a series of incremental stages over several years. Existing uses must be accommodated and conflicts with new facilities be minimized. The existing infrastructure and road network must be considered in order to limit the site development costs as the site builds out. Two site plans are prepared to illustrate the Concept Plan's approach to these issues; Phase One Plan shows improvements made in the initial phase of development and the Full Build-out Plan illustrates the potential full development of the site.

The Concept Plan contains many features including:

- Clustering common uses into of two distinct precincts on site: an Exhibition Precinct to accommodate regionally focused facilities and a Recreation Precinct that provides for community based amenities
- A proposal to create major public outdoor spaces at key locations on site, these include the Heritage Plaza, Tourist Plaza, and Exhibition Esplanade. The Millennium Amphitheatre is integrated in to the Plan.
- A comprehensive network of pedestrian pathways is proposed that link the uses on site and integrates the site with the community pathway system. This includes a major Green Corridor system that connects to the Town Centre via 176A St.
- A network of streets to provide access to various uses from the major arterial roads that bound the site.
- A strategy to accommodate vehicular parking on site.
- Recommendations to accommodate public transit on site. This includes bus service to the Trade & Exhibition Centre and a proposed route for a streetcar system from 176A St.
- Provision for a series of landmarks and gateways throughout the site that will increase the visual profile of the site and assist in wayfinding.

In addition to the physical features outlined above, a number of recommendations are made to assist in creating a unique regional attraction and a vibrant community asset. These are:

- Program and Activity Strategies: to encourage ongoing programming efforts to promote a wide range of activities on site.
- Form and Character Strategies: The pedestrian scaled features on site should contain heritage elements that will integrate the Fairground development into the culture and history of Cloverdale. The larger building and landmark forms should have a cohesive contemporary expression, creating a unique aesthetic for this regionally significant development.
- Environmentally Sustainable Strategies: A list of recommendations is provided to reduce the development's impact on the environment.

Specific recommendations are made about the landscape design that relates to the concepts discussed earlier in the report. These include a detailed description of the pedestrian pathway network, pathway standards, signage and street furniture, and hard landscape.

The Appendix contains two reports: a Preliminary Underground Services Plan by Aplin and Martin Consultants and Transportation Review by Bunt & Assoc.

B. INTRODUCTION

B.1 Background

In 2006 the City of Surrey started a process to redevelop of the Cloverdale Fairgrounds site. This City-owned site is bounded by 60th Avenue, Hwy 15 (176 Street), 64th Avenue, and a row of residential lots and Lord Tweedsmuir Secondary School fronting 180 Street. The site is 130 acres in area, including approximately 42 acres leased to Fraser Downs Casino & Race Track. The remaining 88 acres are the subject of this Concept Plan.

The redevelopment of the Cloverdale Fairgrounds is intended to revitalize this under-utilized public resource, create a regional attraction, and generate economic opportunities and public benefits for the Cloverdale Town Centre and the City of Surrey.



Location Map

B.2 Study Team

The City of Surrey engaged a consultant planning team to undertake this master planning study. The team was a collaboration of four consulting firms: Downs Archambault & Partners Architects and Planners acted as lead design consultant on the study, Perry & Associates Landscape Architecture & Site Planning provided urban design and landscape input, Aplin & Martin Consultants Ltd. provided civil engineering input, and Bunt & Associates was the team’s transportation consultant. The team worked with the City’s Cloverdale Fairgrounds Steering Committee, composed of the City staff and representatives of the Lower Fraser Valley Exhibition Association and the Fraser Downs Casino & Racetrack to identify issues and develop the plan.

B.3 Goal of Study

The goal of the study is to create a Concept Master Plan for the Cloverdale Fairgrounds that will guide the re-development of the site as a regional venue. This will be accomplished by accommodating on the site a variety of facilities and uses that will draw on the regional market.

While supporting this regional focus, the master plan must also recognise the ongoing importance of the site to the local community. Therefore the needs of the local community must also be addressed on the site. Where they cannot be accommodated on site, they will be located elsewhere in Cloverdale.

Possible facilities with regional focus to be considered are:

- A Trade & Exhibition Centre, 150,000 square feet in the first phase, with room for expansion to up to 500,000 square feet. This may be developed through a Public/Private Partnership;
- A 5,500 seat Spectator Arena, which would be developed through a Public/Private Partnership;
- A 200 room Hotel, which would include a ballroom, meeting rooms and a restaurant;
- The existing Agriplex and Stetson Bowl (during the initial phases of development).
- The Millennium Amphitheatre

Future facilities with local community focus:

- Multi-purpose Community Recreation Centre that will include specially designed and programmed youth and seniors' areas;
- Future Additional Local/Regional Amenities, which may include curling rink, two ice-sheet arena, indoor pool or other recreation facilities that may be considered a priority in the future;
- Tourist Information Kiosk;
- Retention/enhancement of heritage elements;
- Continuity of existing recreation facilities on or off site.

It should be noted that none of the facilities listed above have been approved by Surrey City Council, but are intended to identify potential uses to be accommodated in the Fairgrounds Concept Plan.

B.4 Study Methodology

The study extended over 9 months in which the consultant team met every two weeks with the City's Steering Committee.

In the initial stage of the study, the consultant team met with a number of stakeholder groups to understand their existing requirements and their aspirations for the site.

These stakeholder groups included:

- Cloverdale Minor Hockey Association
- Cloverdale Figure Skating Association
- Cloverdale Horseshoe Club
- Cloverdale Tritons Swim Club
- Cloverdale Seniors Centre Advisory Board
- Valley Curling Club
- Fraser Downs Casino and Race Track
- Lower Fraser Valley Exhibition Association
- Cloverdale & District Chamber of Commerce
- School District #36: Lord Tweedsmuir Secondary School
- Royal Canadian Mounted Police
- South Fraser Public Health Unit
- Surrey Tourism Association

The site and its context were analysed after considering the input by the Stakeholders, and a set of project objectives and planning principles were identified. Several alternative site plan concepts were developed and reviewed by the Steering Committee. The alternatives were narrowed down to two preferred options that best responded to the planning goals and objectives. These options were identified as Option A and Option B and were presented to both City Council and the general public at the Open House on October 19, 2006. The public was asked to comment on these options and indicate which option they preferred. Feedback from both the Public Open House and the Steering Committee supported the selection of Option B as the preferred option. City Council was then asked for consent to develop the preferred option in detail.

The consultant team refined the technical requirements and the qualitative aspects of the Concept Plan and presented it to the public in the second Open House on March 7, 2007. Feedback from that Open House and the Steering Committee forms the basis of this final master plan report.

B.5 Previous Planning Studies

Over the course of the past few decades, there have been several studies and business plans generated for this site. These include “A Feasibility Study of the Lower Fraser Valley Exhibition Association and Fairgrounds, September 1970”, the “Cloverdale Fairgrounds Master Plan, May 1983”, the “Cloverdale Rodeo & Exhibition Association Business Plan, April 2, 1996”, the “Cloverdale Parks and Recreation Master Plan, 1997”, and the “Cloverdale Fairgrounds Site: Land Use and Development Strategy” by G.P. Rollo & Assoc. Ltd., Land Economists, October 2004.

Of particular relevance is the “Cloverdale Town Centre, Land Use and Urban Design Concept Plan, October 30, 2000”. In this study the authors sought to prepare a comprehensive land use plan, establish an urban design concept and develop strategies to revitalize the existing historic Town Centre.

This Concept Plan references the Cloverdale Fairground site as the important northern anchor of the Town Centre. The Plan proposes:

- A strong commercial link between the Town Centre and the Fairgrounds site;
- The Development of easy and convenient pedestrian and vehicular access routes between the Town Centre and the Fairgrounds, including a major pedestrian link along 176A St.;
- The potential installation for a heritage streetcar line linking the Fairgrounds site with Hwy 10, along 176A St.;
- Creation of a public Urban Plaza at the intersection of 176 Street (hwy 15) and 60 Ave. as a northern anchor for the Town Centre, reflecting the heritage designation on this portion of the site.

C. SITE AND PROGRAM

C.1 Heritage Background

First surveyed in 1859 Cloverdale emerged as a small agricultural community in the 1870s. As three railway systems passed through the settlement, Cloverdale quickly became an important transportation hub. The town developed a unique urban character of simple building forms using traditional building materials of wood and some brick. Please refer to the “Cloverdale Town Centre, Land Use and Urban Design Concept Plan” for a more detailed description.

The Cloverdale Fairground Site is rich in history as well. Clover Valley School, the first school in Surrey opened on September 7, 1882, and was located near the intersection of 60th Ave. and 176 St. As the population grew the school was replaced by the Cloverdale Elementary School on Hwy 10.

The Hadden Family established a milling operation on the site, next to a pond dredged from Cloverdale Creek. It operated from the mid-1890s to about 1909 when the local timber supplies ran out. Many Cloverdale buildings and houses were built using wood products from this mill.



Clover Valley School



Hadden Mill

The Surrey Agricultural Association was founded in 1888 in the Town Hall in Surrey Centre. For fifty years, and through a number of name changes, the Association organized agricultural fairs on various sites. In 1938, a permanent location was established on the Cloverdale Fairgrounds site, where the Lower Fraser Valley Exhibition Association holds the Cloverdale Rodeo and Country Fair today. The first rodeo was started in 1945 by Clarke Greenaway and Jack Shannon. The Agricultural Association took it over several years later.

In 1956, the stated objectives of the Association was “to encourage the cultivation of the soil and the general development of all the agricultural resources of the District and to foster every branch of mechanical and household arts calculated to increase the happiness of home life.” In that year the fair obtained a “B” classification .

Around 1962, the society gained control of approximately 90 acres, which was leased from the City. In 1965, the fair achieved an “A” class exhibition standing. At the time, the only other “A” class exhibition in the province was the Pacific National Exhibition.

In addition to the Cloverdale Rodeo, the site is used for many other agricultural events. In 2004, the City of Surrey entered into a twenty year lease with the operators of Fraser Downs Casino and Race Track for the use of approximately 42 acres of the site including the existing horse race track facilities.

The old Town Hall, built in 1881, was moved from Surrey Centre at the northwest corner of Old McLellan Road and Pacific Highway (176 St.) to its present site in 1938, and the Agricultural Association moved with it. This building continued to serve as the site for the Fall Fair for many years. Later it was integrated into the Surrey Museum in 1957. The Surrey Museum and Archives building expanded over the years. In 1949, a Memorial Cenotaph was constructed on the site to replace the First World War cenotaph that was located at by the Municipal Hall along Hwy 10.

In 2005, the Museum and Cenotaph was relocated to a new site along Hwy 10. The old museum building is currently used as the Cloverdale Seniors Centre.

In recognition of its historic importance, City Council designated the northeast corner of 60th Ave and 176 St, as a Heritage Designated Area in 1982. In its proclamation, City Council stated “This property is the site of the Old Haddon (sic) Mill and the building on the site is the present Surrey Museum structure, the first Municipal Hall which was constructed in 1881.”

C.2 Site Inventory

C.2.1 Existing Site Land Use

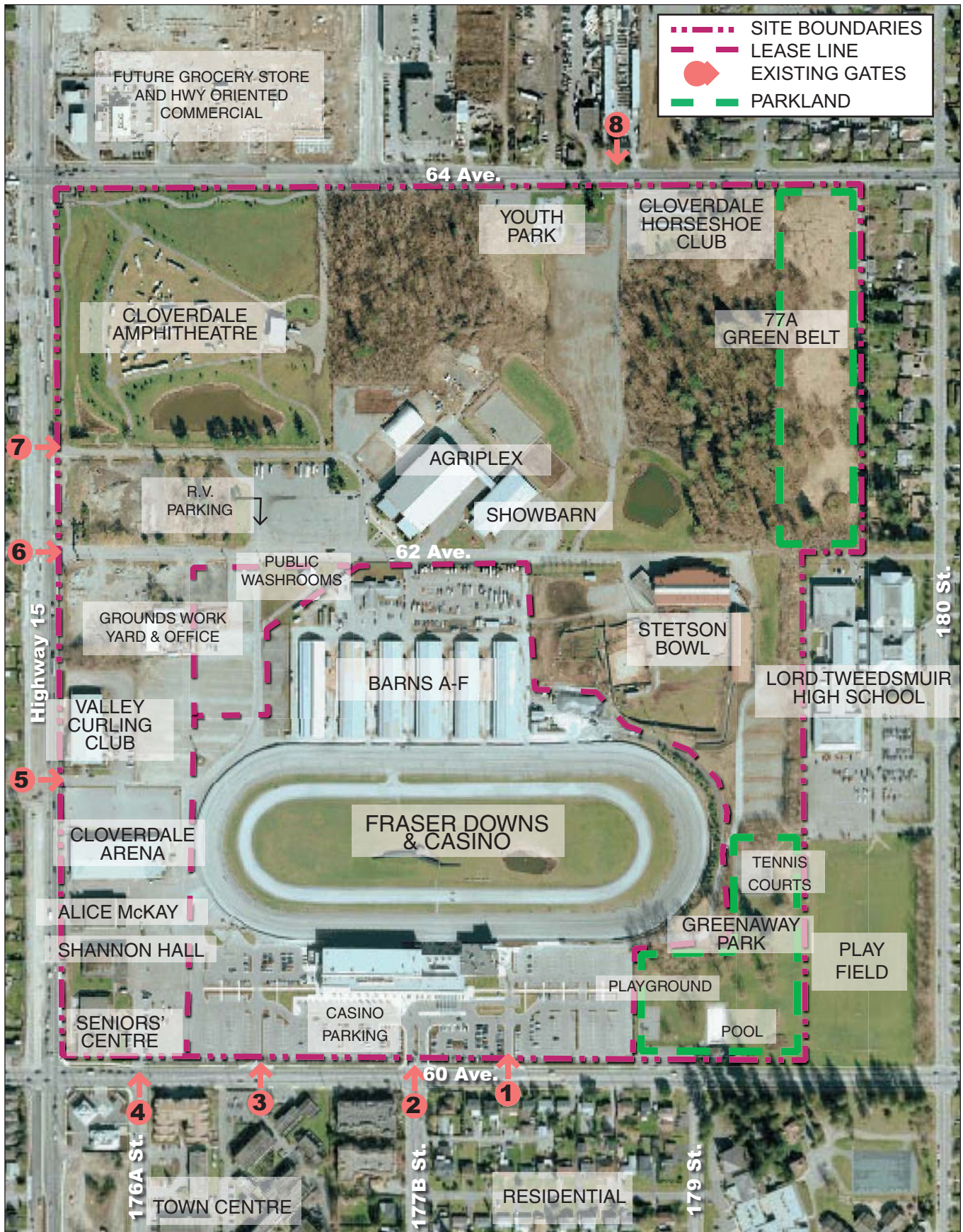
Fraser Downs Casino and Race Track, which occupies about 42 acres, comprises a horse race track facility including horse barns and a marshalling area on the north side of the track, and a grandstand and a casino on the south side. A significant portion of the site is devoted to accommodating 1200 parking stalls. Approximately 900 stalls are provided in the area surrounding the Casino, and the rest is located in an overflow lot immediately to the west of horse barns.

On the remaining 88 acre site there are a variety of existing land uses, some recreation based and others that are exhibition or meeting venues. The recreational uses include:

- Cloverdale Arena, which contains an ice rink and seating for 375 spectators;
- Valley Curling Club, a 6 sheet curling facility;
- Senior Centre, housed in the old Surrey Museum building;
- Youth Park containing a skateboard bowl and basketball courts;
- Cloverdale Horseshoe Club;
- Greenaway outdoor swimming pool and children's playground located in Greenaway Park;
- 77A Green Belt, an area identified as parkland

The existing exhibition or meeting venues include:

- Shannon Hall, which is currently used for various meetings and public functions;
- Alice McKay that houses the office of the Lower Fraser Valley Exhibition Assoc.;
- Agriplex, a 23,000 sq ft arena with a dirt floor;
- Show Barn, a 18,000 sq ft venue with an asphalt floor;
- Stetson Bowl, a 4000 seat stadium;
- Cloverdale Amphitheatre, an outdoor performance venue with a stage.



EXISTING LAND USE



Figure 1



Figure 2



Figure 3

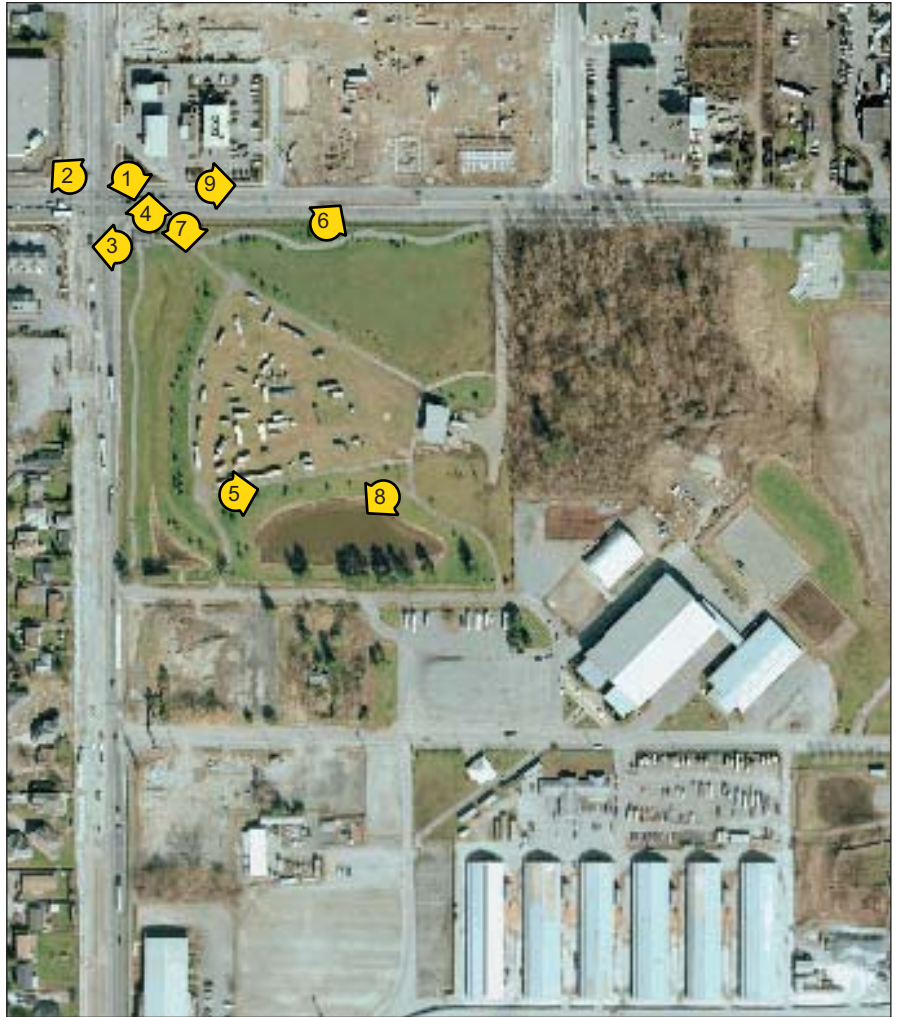


Figure 4



Figure 6



Figure 8



Figure 5



Figure 7



Figure 9

CONTEXT PHOTOS



Figure 10



Figure 11



Figure 12



Figure 15



Figure 18



Figure 13



Figure 16



Figure 19



Figure 14



Figure 17



Figure 20

CONTEXT PHOTOS



Figure 21



Figure 22



Figure 23



Figure 24



Figure 25



Figure 26



Figure 28



Figure 27



Figure 29

CONTEXT PHOTOS



Figure 30



Figure 31



Figure 32



Figure 33



Figure 34



Figure 35

CONTEXT PHOTOS

C.2.2 Topography

The majority of the site is relatively flat. Though it slopes from a low corner at 176 St and 60th Ave up to the north east corner of the site, creating a total cross fall of 22.5 meters (74 ft), given the size of the site the average slope is only 2 percent. The land rises more significantly along the east edge of the site bordering the residential neighbourhood, the high school property and Greenaway Park.

C.2.3 Geotechnical Summary

Levelton Engineering prepared a report dated July 14, 2004. The purpose of the report was to summarize previous geotechnical investigations that were completed by Levelton at or near the Fairground site, and provide a generalized discussion on items such as site grading constraints, anticipated foundation systems for lightly, moderately or heavily loaded buildings, and anticipated settlements. This information was prepared to assist the City in developing a site development program.

In general the report outlines that soils composition is fairly regular across the site. It is comprised of a topsoil/fill layer, a layer of very stiff clay 'crust', above a soft to very soft silty clay and clay layer, which extends to a till-like sand/silty sand substrate. The report indicates lightly loaded and moderately loaded buildings with raft slabs may bear on the upper crust layer if the site is properly prepared with a combination of overburden removal and preloading. However heavily loaded buildings will require a pile foundation that will extend down to the more competent till-like layer.

What varies across the site is the depth of the till-like bearing layer, which may be between approximately 10.5 to 23 meters below the surface. Generally the till layer appears to be higher towards the east of the site. However it was noted that substantial variations in depth may exist in close proximity.

The report cautions raising the finish grade around a building by more than 600mm, since the weight of the fill could cause excessive settlement.

The report indicates that the permanent groundwater table is approximately 3 meters below grade, immediately above the soft clay deposit.

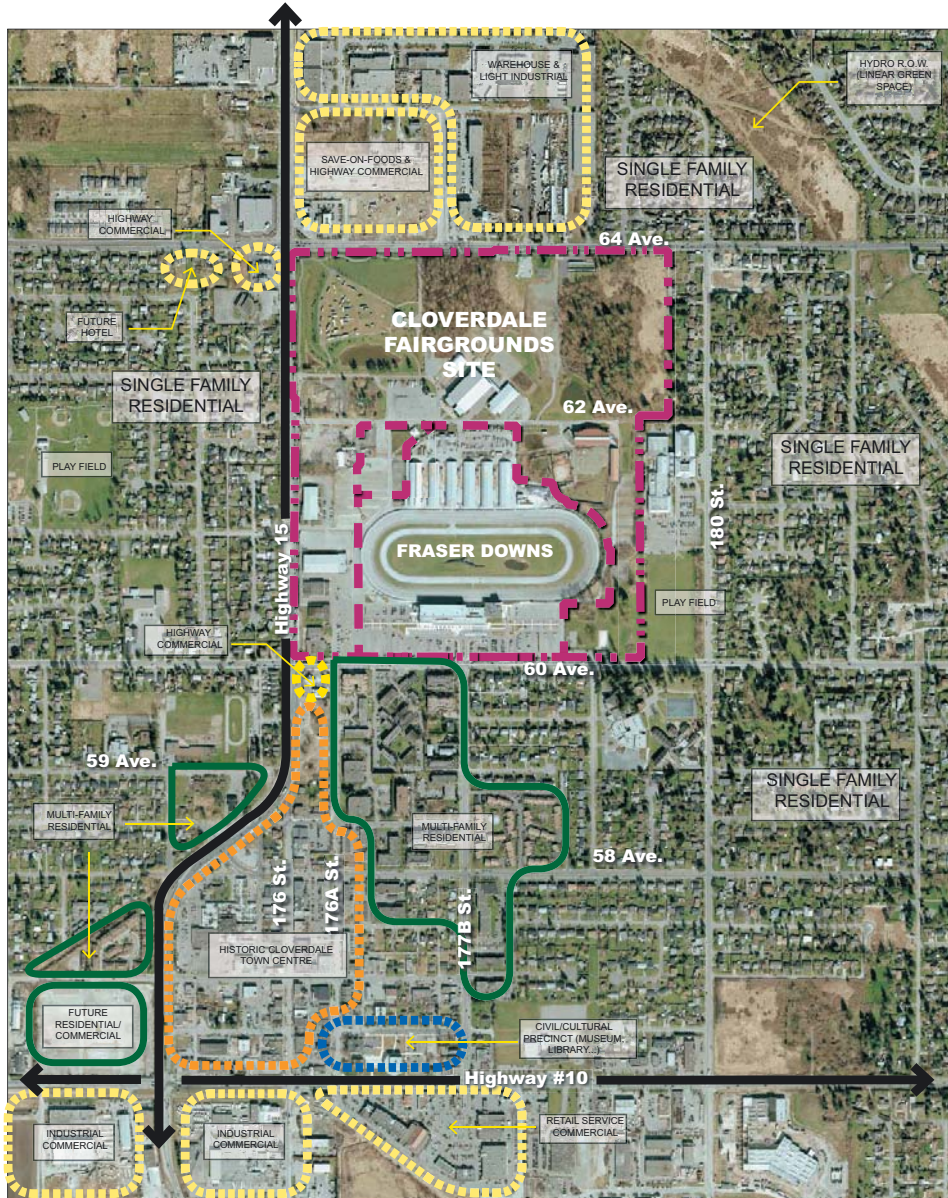
C.2.4 Existing Underground Site Services

See Appendix G.1: Preliminary Underground Services Plan

C.3 Surrounding Context

C.3.1 Existing Surrounding Land Use

The site is located immediately north of the Cloverdale Town Centre adjacent to Hwy 15 (176 St). Single family residential neighbourhoods are located to the east and west of the site, and medium density residential zone is located to the south. A major highway commercial development has recently been completed adjacent to warehouse and light industrial buildings to the north of the site.

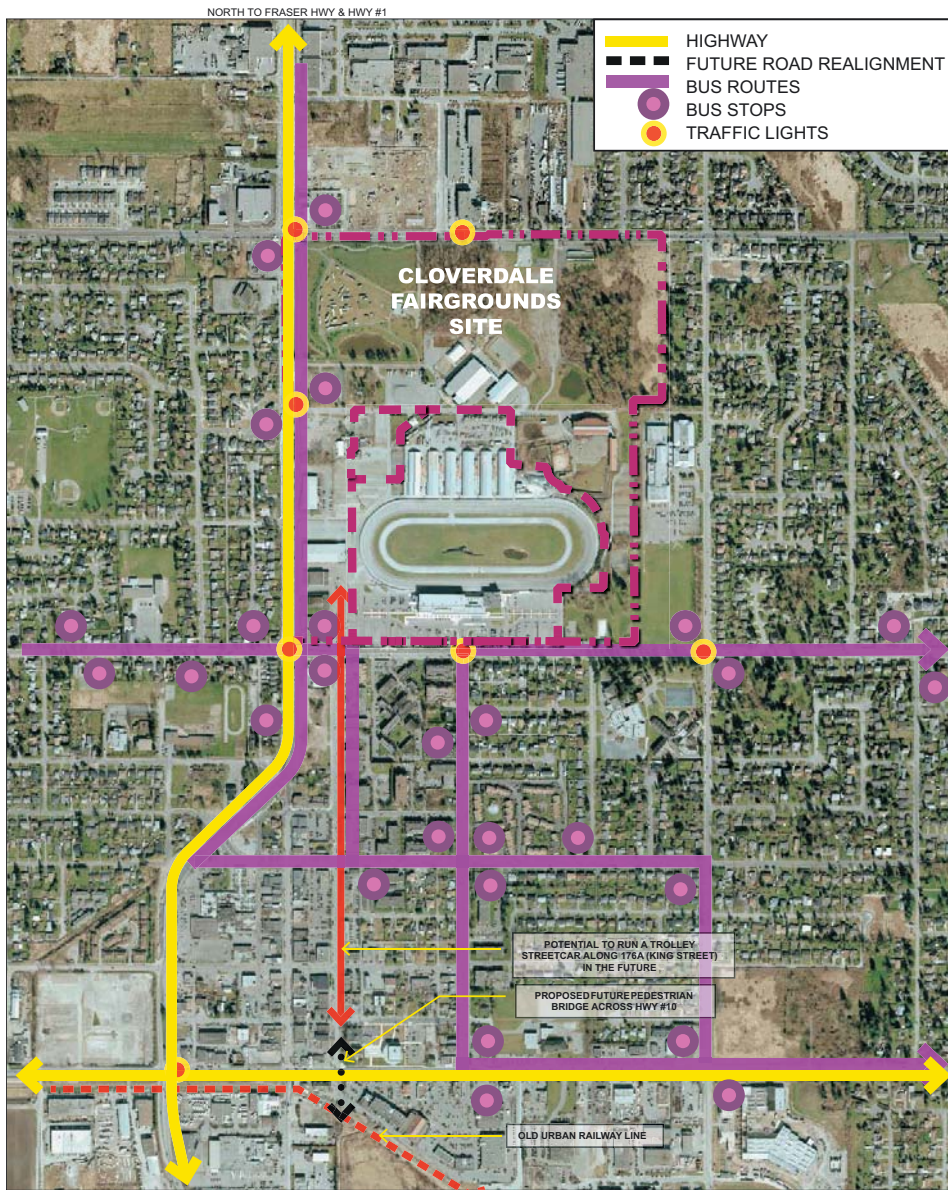


SURROUNDING LAND USE

C.3.2 Existing Transportation Circulation

The site is very well serviced on three sides by major arterial streets: Hwy 15 (176 St), and 60th and 64th Avenues. Existing vehicular access to the site comes from eight existing gates, three of which access the Fraser Downs parking. Three traffic controlled intersections at the corners of 177B St. & 60th Ave, 176 St. & 62nd Ave, and a new light at 177B St. & 64th Ave form the basis of good vehicular access and egress when the site is redeveloped. Please see Appendix G.2 Transportation Management Plan.

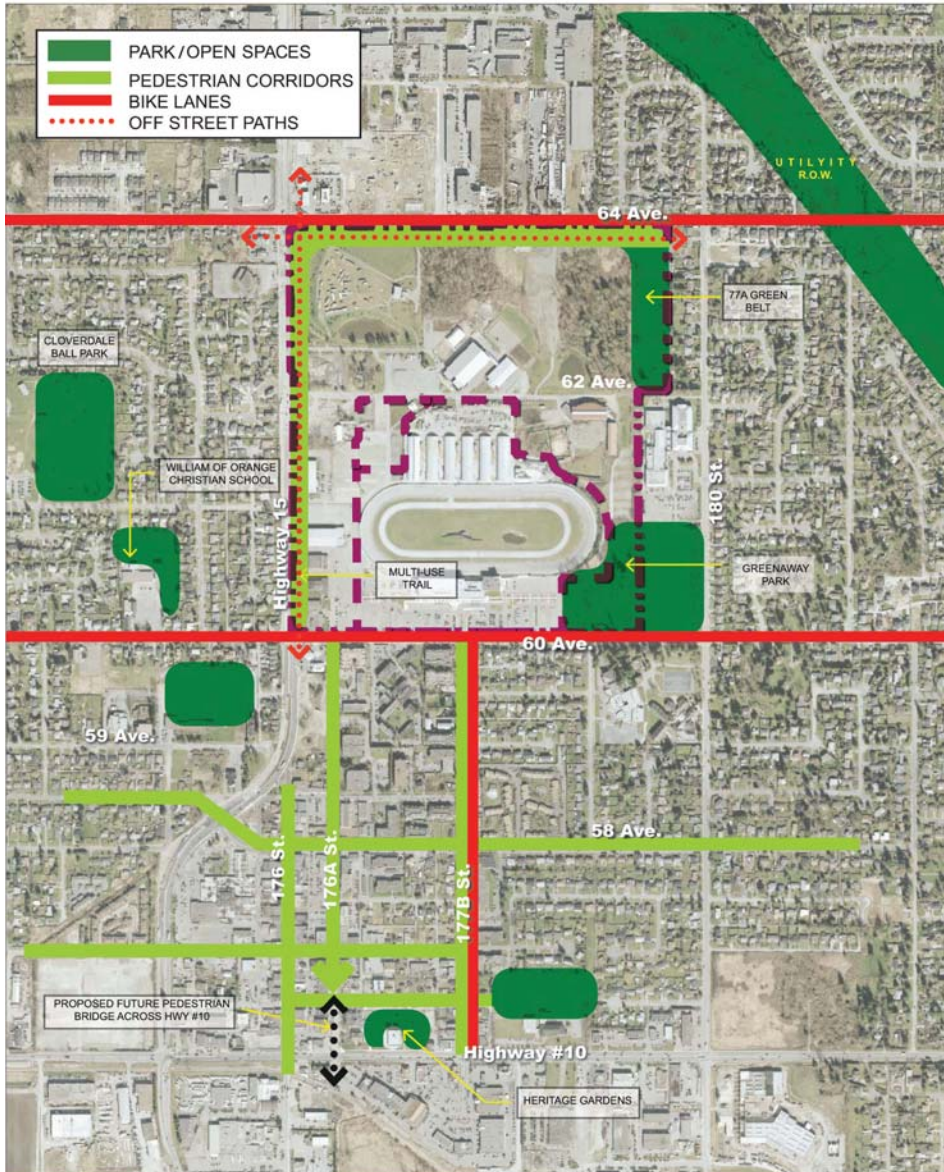
The site is currently serviced with bus routes along 176 St, and 60 Ave. Bus stops are located at the along 176 St. (Hwy 15) at 60th Ave., 62nd Ave, and 64th Ave.



EXISTING TRANSPORTATION AND CIRCULATION

C.3.3 Existing Bicycle/Pedestrian Circulation & Green Corridors

Pedestrian corridors have been proposed to link the Fairground site to the Town Centre along 176A St. and 177B St. In the current planning documents designated bicycle routes are located on 60th Ave, 64th Ave, and 177B St, all of which offer good connectivity to the site. An off-street bicycle/pedestrian pathway has been established along 176th Street and 64th Ave.



PEDESTRIAN CIRCULATION AND PARK/OPEN SPACES

D. PROPOSED MASTER PLAN

D.2 Project Objectives and Planning Principles:

The development of the master plan was shaped by several project objectives and guiding planning principles. These were:

1. Create opportunities for economic growth;
2. Increase the profile of the site as a regional attraction;
3. Arrange uses to enhance and connect with the Cloverdale community;
4. Incorporate flexible planning approach that will accommodate changes in the land use program;
5. Utilize the land and buildings efficiently;
6. Group complementary uses;
7. Minimize conflicts between uses;
8. Maximize the retention of existing facilities and amenities during the phased development;
9. Allow for continuity of use during phasing;
10. Provide ease of access and service to uses;
11. Create multi-use outdoor spaces;
12. Reinforce the pedestrian connection to downtown Cloverdale;
13. Create an attractive pedestrian realm;
14. Create a site with abundant high quality landscaping;
15. Create clear and understandable automobile and pedestrian circulation;
16. Integrate heritage opportunities within the Concept Plan;
17. Plan for the continuity of the existing recreation facilities on or off site;

D.2 Proposed Land Use Program

The Cloverdale Fairgrounds Concept Plan will be phased over a number of years. Over the course of this redevelopment several existing land uses will remain, some buildings will be replaced by new facilities on site, and others will be relocated to other properties within the Cloverdale community. While the Concept Plan makes specific recommendations for the existing facilities and the provision of new facilities, these have not yet been approved by City Council. None of the new facilities have been accommodated in the current City budget. The implementation of each step of this Plan will be subject to review and approval from City Council.

New uses will also be introduced to the site to enhance it as an attraction of regional significance. The first phase allows for the construction of a 150,000 sq ft Trade & Exhibition Centre, a Community Recreation Centre and a Tourism Kiosk. Subsequent phases will allow the development of a Hotel, expansion of the Trade & Exhibition facility, a Spectator Arena, and future recreation amenities.

The Plan is based on the following land use and floor area assumptions in a first phase and in what might be the ultimate build-out of the site. Any significant changes to these assumptions will require an assessment of their impact on the planning approach and possibly modifications to the Concept Plan.

Existing Facilities	New Facilities	Bldg. Area			Footprint Areas		Cloverdale Fairgrounds Redevelopment	
		SF	SM	SF	Phase 1	Phase 2: Build-out		
Race Track and Casino Fraser Downs							Retain	Retain
Regional Focus								
	Trade & Exhibition Centre First Phase	150,000	14,000	150,000			Build 150,000	150,000 expansion if Arena is built
	Maximum Build-out	500,000	46,500	500,000				350,000 expansion if Arena is not built
	5500 Seat Spectator Arena	120,000	6,900	74,000				Build Arena
	Agriplex		3,700	40,000			Retain	Remove
	Show Barn	18,000	1,860	20,000			Retain	Remove
	Stetson Bowl		7,760	105,000			Retain	Retain
	RV Parking		4,600	50,000			Relocate on site	Relocate on site
	Cloverdale Amphitheatre		15,300	165,000			Retain	Retain or reconfigure
	200 Room Hotel	200,000	5,500	59,000				Build
	Surrey Tourism Kiosk		140	1,500			Build	
Community Focus								
	Multipurpose Community Centre: includ. Seniors' & Youth Centre Maximum Build-out	80,000	4650	50,000			Build	
	Cloverdale Seniors Centre	17,000					Integrated into Comm. Centre	
	Cloverdale Arena	30,000	2800	30,000			Retain	Relocate on or off site
	Valley Curling Club	20000	1860	20,000			Retain	Relocate on or off site
	Additional Rec. Amenity: Ice/Curling RinkFacility or Indoor Swimming Pool		4,830	52,000				Build Additional Amenity
	Horseshoe Pitch Facility		1,070	11,500			Retain	Relocate off site
	Greenaway Pool		1,100	12,000			Retain	Retain
	Tennis Courts		1,200	13,000			Retain	Retain
	Skateboard Park		1,100	12,000			Retain	Relocate on site
	Basketball Courts		520	5,600			Retain	Relocate on site
	Childrens Playground		510	5,500			Retain	Retain
	Streetcar track							Accommodate
Site Support and Service								
	Grounds Work Yard & Office		2,230	24,000			Relocate on site	

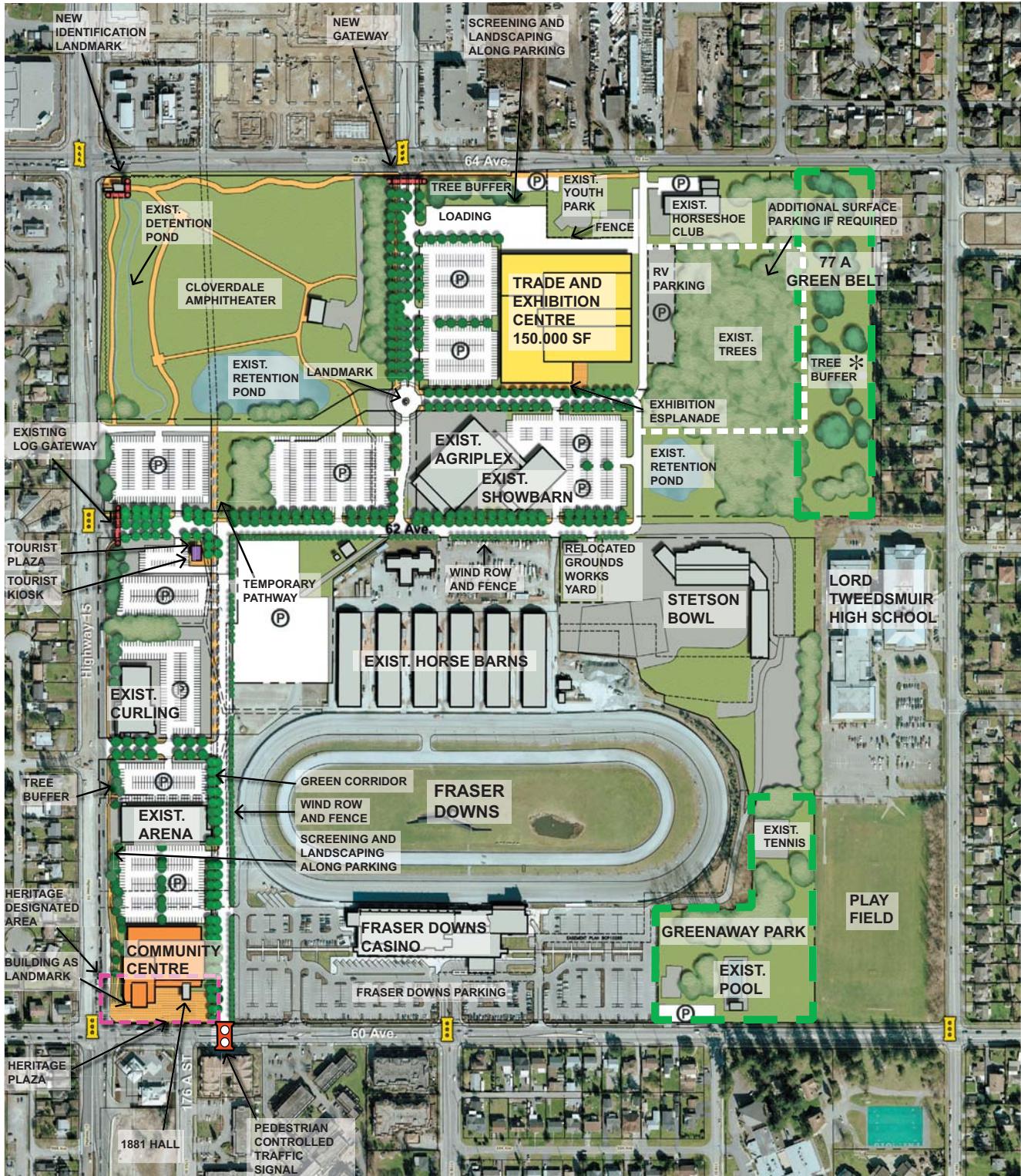
D.3 Cloverdale Fairground Concept Plan

D.3.1 Phased Master Plan and the Continuity of Existing Uses

The Concept Master Plan will be phased over a number of years. An important planning objective is to accommodate the existing regional and community uses on site for as long as possible. Conflict between the new facilities and the existing uses must be minimized. As future phases are undertaken the existing recreational facilities may need to be replaced, either on site or elsewhere in the Cloverdale Community. Care will be taken to ensure that existing recreation facilities are maintained until the replacement facilities are available, providing continuity of use.

The Master Plan must allow for the incremental improvements of the vehicular and pedestrian circulation. The plan must also accommodate a logical expansion of underground site service and parking area, based on the existing underground services and current parking facilities. The Plan seeks to minimize the initial investment in site-wide improvements. The cost of these site improvements must be factored into the project cost for each new facility built.

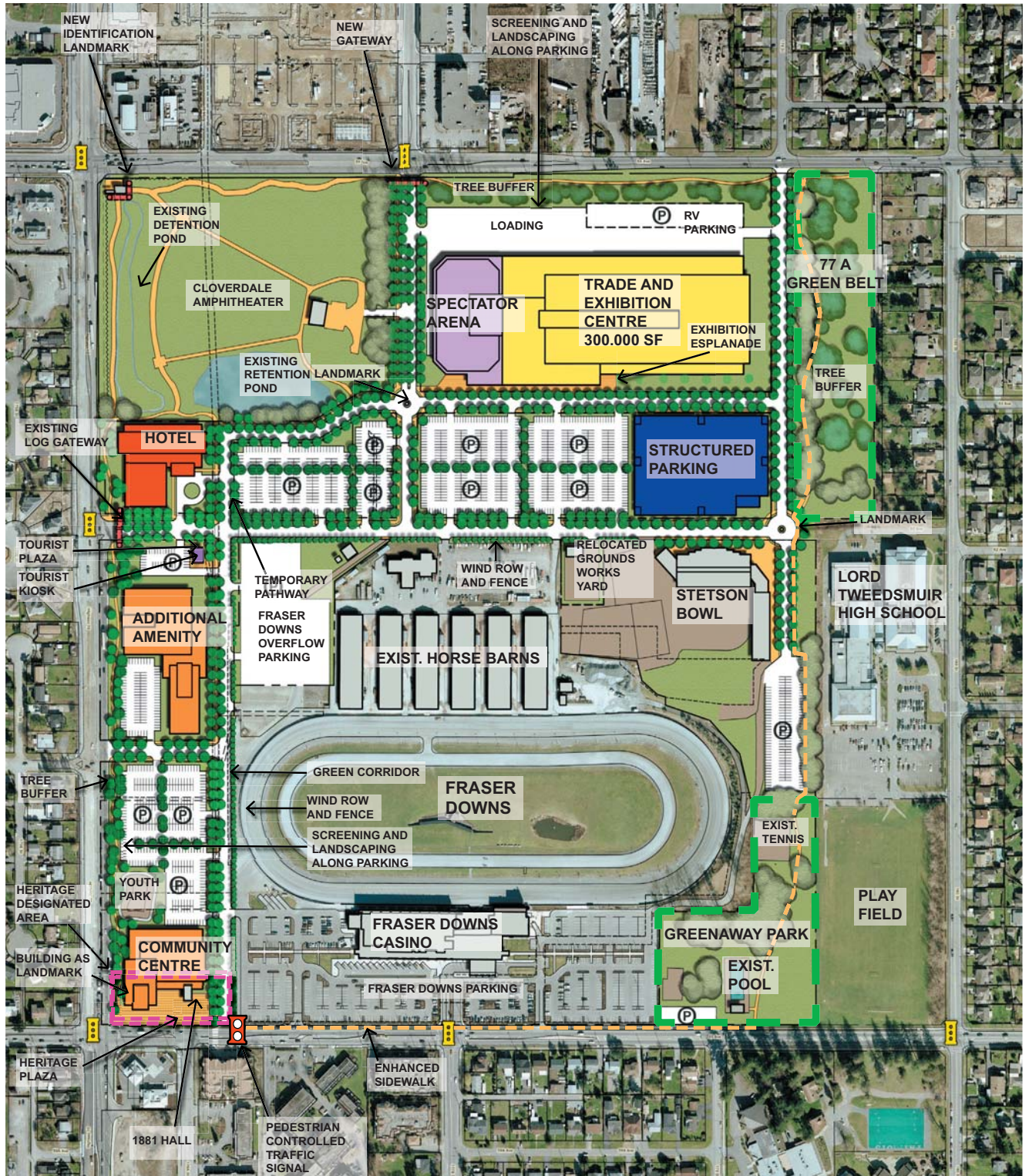
Two site plans are prepared in order to illustrate the approach to phasing the Concept Plan. The “Phase One” Site Plan shows improvements made in the initial phase of development. The “Full Build-out” Site Plan shows the potential final build-out of the Concept Plan.



Note: Maintain continuity of existing recreation facilities on or off site

* Tree Buffer should be planted in Phase One. The uses could include trails, dog park, etc.

PHASE ONE SITE PLAN



Note: Maintain continuity of existing recreation facilities on or off site



FULL BUILD OUT SITE PLAN

D.3.2 Arrangement of Major Uses

To group complementary uses, and to minimize conflict between uses, the Master Plan establishes two major zones on the site: the Exhibition Precinct and the Recreation Precinct.

Exhibition Precinct

The Exhibition Precinct is located north of 62nd Ave and is planned to accommodate the regionally focused uses, including the existing Amphitheatre and Agriplex, and the future Trade & Exhibition Centre, Spectator Arena, and Hotel.

Within this precinct, a new Trade & Exhibition Centre is shown on the largest land parcel to allow for future expansion. The T&E Centre would be oriented towards the interior of the site, with the loading area adjacent to 64th Ave. This location and orientation would allow the T&E Centre to relate to the existing Argiplex and Show Barn, providing the opportunity for joint events. As the demand for a larger facility increases, the Centre may expand easterly or westerly. However, if a Spectator Arena is constructed, the expansion would be towards the east.

A future Spectator Arena is shown immediately to the east of the Trade & Exhibition Centre. The Plan illustrates that the two facilities could be connected to allow joint use of these facilities. If the Spectator Arena is built, the site would limit the T&E Centre to a maximum building area of approximately 300,000 sq. ft.

The Tourist Kiosk is located on 62nd Ave and 176A St., adjacent to the existing log archway. This site is readily accessible to and from Hwy 15. The Kiosk building may be a new construction or a relocated heritage building, if such building is adaptable as a tourist centre.

The Hotel is shown in a highly visible site adjacent to 62nd Ave. and Hwy 15. Proximity to the Trade & Exhibition Centre, the Fraser Downs Casino, and on major north/south Green Corridor are seen as major advantages of this location.

Stetson Bowl is retained in this Master Plan. Although the Stetson Bowl is currently under-utilized, the development of this Exhibition Precinct may encourage greater use of this facility. A detailed physical and functional assessment of the Stetson Bowl may be required to gauge its ability to accommodate a new activity and event.

Recreation Precinct

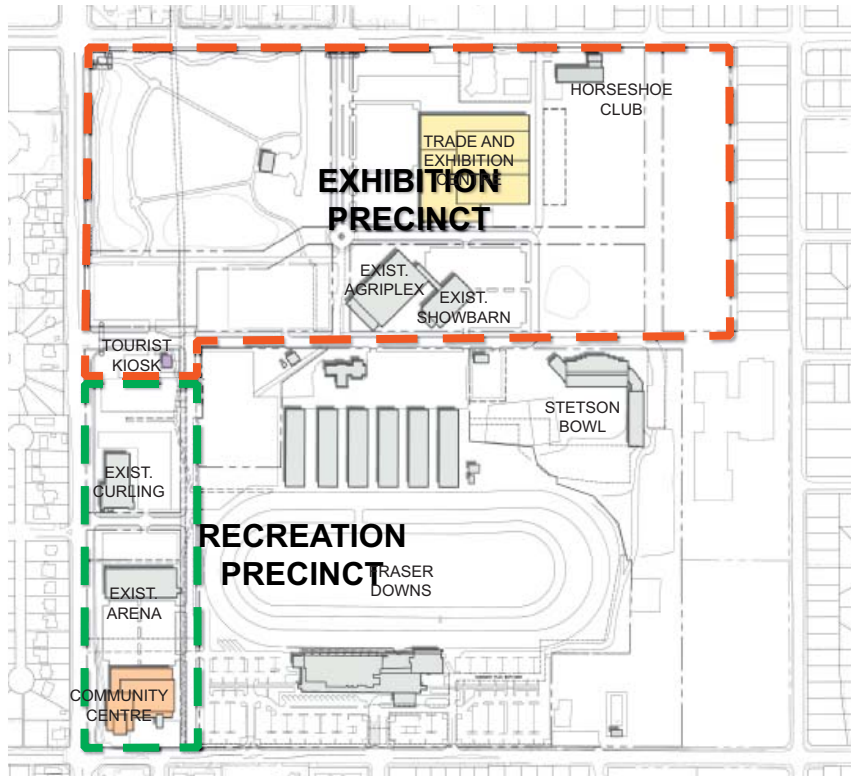
The Recreation Precinct, located along Hwy 15, extending from 60th Ave to 62nd Ave will accommodate the community focused uses such as the existing Cloverdale Arena, Valley Curling Centre, and new Multipurpose Community Centre.

The Multipurpose Community Centre is proposed to be located at the corner of 60th Ave and Hwy 15. The building will include areas specifically devoted to and designed for seniors and youth. The integrated facility will allow efficiencies in the construction, management and operation of the building. It will also allow opportunities to share amenities and to encourage social interaction between age groups.

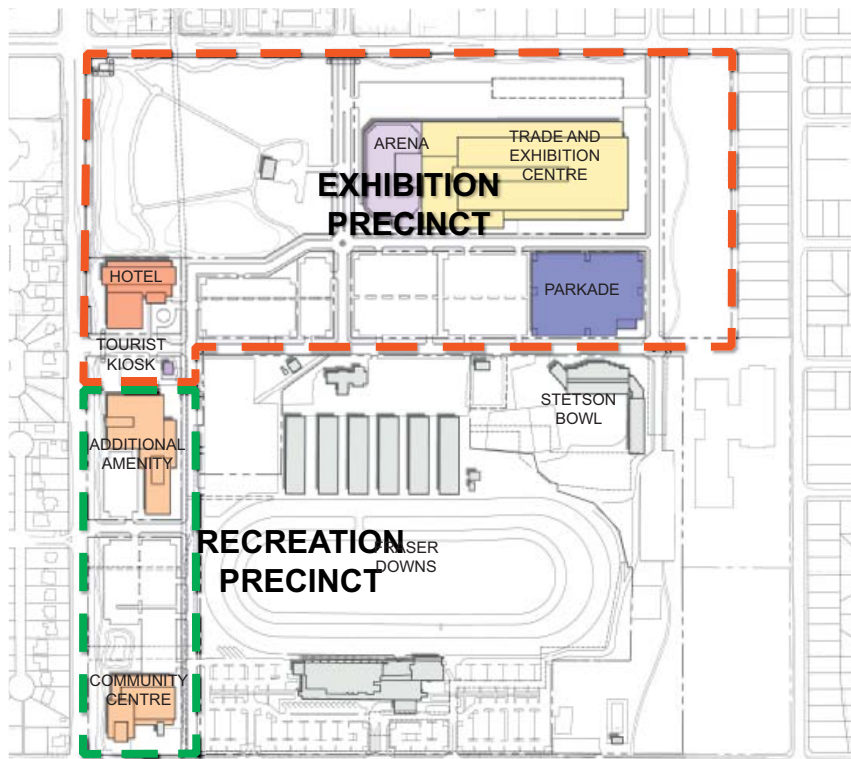
This site was seen as the optimum location for this facility because of its proximity to the Town Centre and to the medium density residential area across 60th Ave. The site will accommodate a two storey building adjacent to the Heritage Plaza.

The Cloverdale Arena and Valley Curling Club buildings will be retained in the Phase One of the Concept Plan. In future phases, a decision may be made by Council to replace these buildings with facilities integrated either into the Additional Recreational Amenity Building or on other sites in the Cloverdale Community. In either case the existing buildings would be maintained until the replacement facility is made available to ensure the continuous availability of these uses.

The Plan accommodates a future Additional Amenity Building within the Recreation Precinct. While the program for this building has not been determined at this time. The designated site is large enough to accommodate an Ice/Curling Rink facility with 2 sheets of ice and 6 curling sheets, or an Indoor Swimming Pool.



LAND USE: PHASE ONE



LAND USE: FULL BUILD OUT

D.3.3 Outdoor Places

The Concept Plan identifies several outdoor plazas and spaces for the benefit of both the local community and the visitor from elsewhere. These places include the Heritage Plaza, Tourist Plaza, Cloverdale Amphitheatre and the Exhibition Plaza. Each space will provide an enriched experience for people using these facilities, and will create a special identity to the Fairground Site.

These outdoor places will act as extensions of the buildings associated with them and support the activities within. They may also create venues for events that may support more site-wide objectives.

The Heritage Plaza will be located in the Heritage Designated Area at the south west corner of the site, aligned with the existing 176A St. It will have a direct relationship with the new Community Centre. It will contain the 1881 Town Hall and other heritage features that will relate to the history of this site and the Cloverdale Community.

The Tourist Plaza is an outdoor amenity that will support the tourist information activities of the Tourist Kiosk. This will create another opportunity to interpret the vibrant past and current activities on the site.

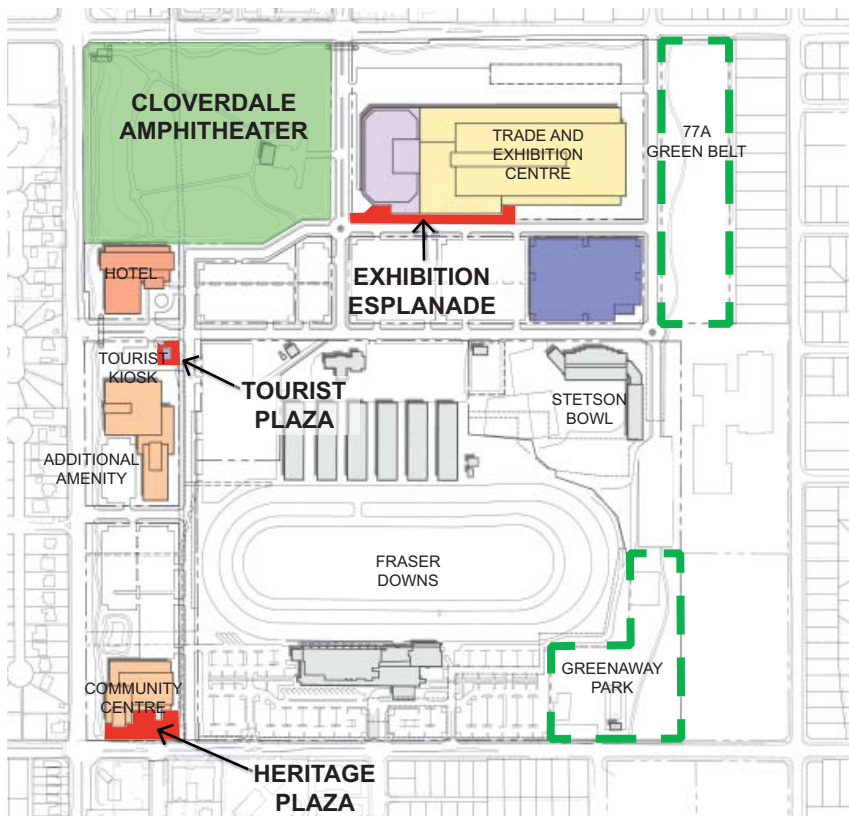
The Cloverdale Amphitheatre is retained in this Concept Plan. The Amphitheatre site provides a significant public green space adjacent to what may become a highly utilized site. The existing pond provides habitat to wildlife and a visual amenity. This area is currently used for both active and passive activities.

The Exhibition Explanade is a curb side entry court in front of both the Trade & Exhibition Centre. This space will be important in establishing the character of this keynote building, and advertise the programmed events within the Centre.

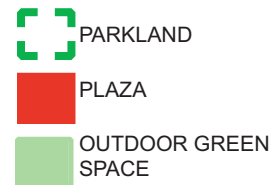
The 77A Green Belt, located at the north-east corner of the site is identified as parkland and may contain passive park uses such as trails and an off-leash dog area. It is recommended that this area adjacent to the single family residences be planted with a tree buffer in the Phase One to create a visual separation from the future Trade & Exhibition Centre expansion.



OUTDOOR PLACES: PHASE ONE



OUTDOOR PLACES: FULL BUILD OUT



D.3.4 Pedestrian Circulation

The Concept Plan proposes a network of pedestrian pathways through the site connecting the various uses and parking areas. These pathways also provide links to the surrounding neighbourhood, reinforcing connections to the Cloverdale community and Town Centre.

Within the Fairgrounds development the network is comprised of several types of paths, creating a hierarchy of pedestrian circulation. Please see Section F.1 Pedestrian Pathway Network for a full description of the design of each type of pathway.

The major pathway proposed is the Fairground Green Corridor. It is comprised of a 3 meter wide multi-use paved path for pedestrians and bicycles, flanked on both sides with boulevard trees. This pathway runs parallel with the street, and links all the major existing and new buildings. Two Green Corridors are proposed; one will run north/south along 176A St. and then 177A St., the other along 62nd Ave.

In order to provide a strong pedestrian link with the Cloverdale Town Centre via 176A Ave., the installation of a pedestrian controlled traffic light is proposed where the north/south Green Corridor intersects 60th Ave. Please see Appendix G.2 Transportation Review for a more detailed description.

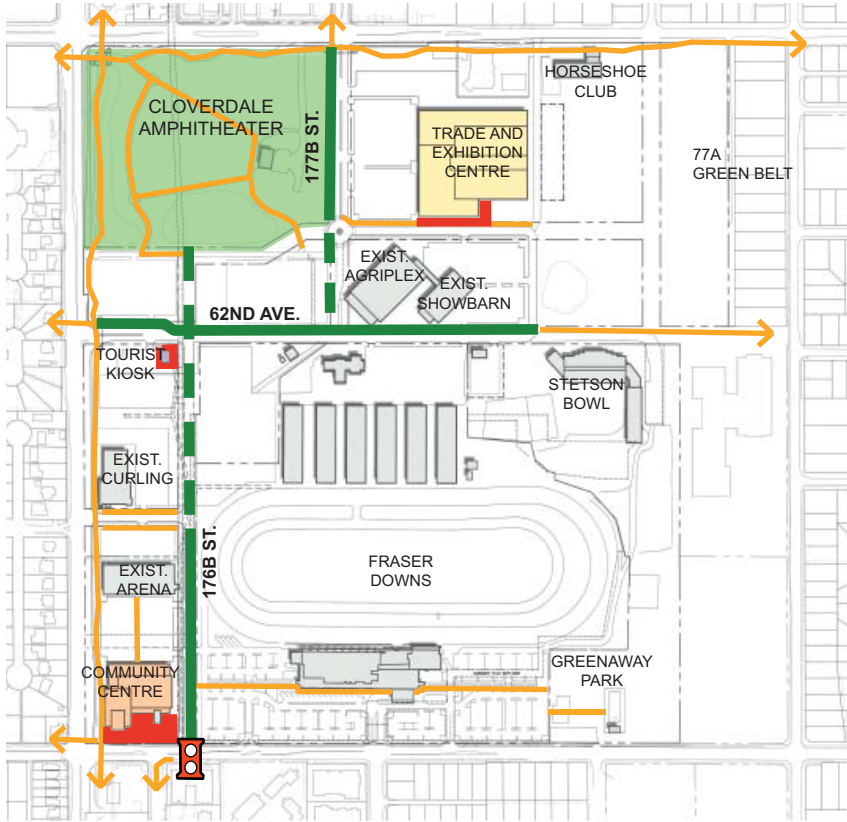
It is important to establish these major pedestrian pathways through the site in Phase One of the development. Therefore the Master Plan recommends that the permanent Green Corridor be installed in the following areas:

- Along 176B St., between 60th Ave and the existing Curling Centre
- Along 177B St.. bounding the Amphitheatre
- Along 62nd Ave.. to the Stetson Bowl

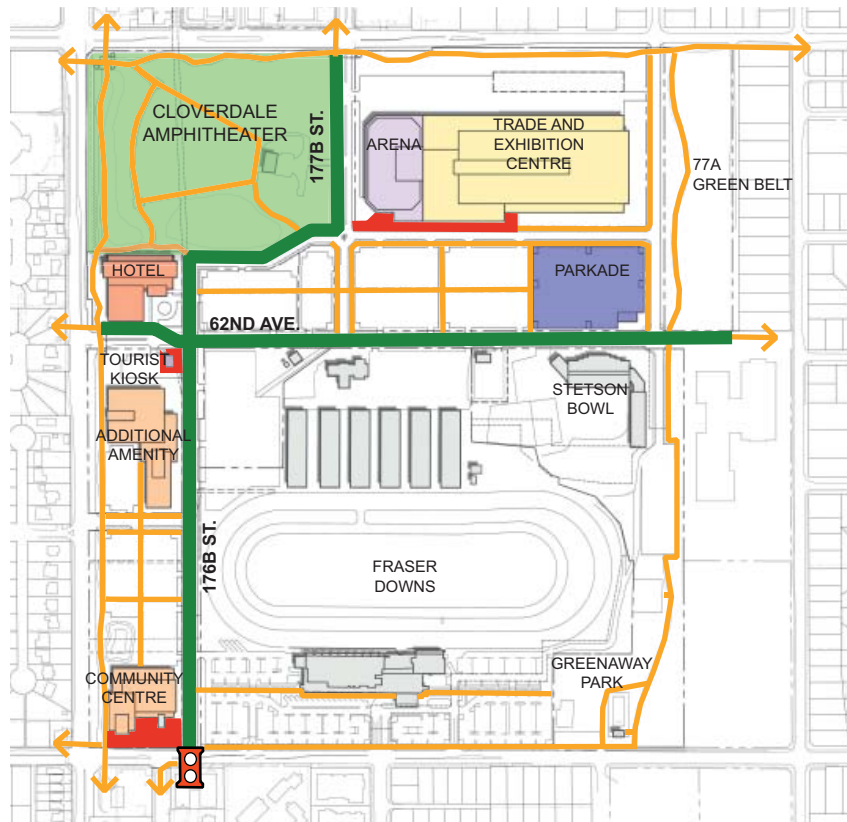
The remaining segments of the Fairground Green Corridors may be established with a temporary Green Corridor design to minimize the initial capital cost.

A Perimeter Pathway is also proposed along Hwy 15, and 64th Ave. This pathway is a multi-use trail, however, the intent of this path is to provide pedestrian and bicycle connectivity to the adjoining neighbourhoods without entering the Fairgrounds Site. This path will be open to the public when major events may limit access to the site.

Secondary pathways are planned to provide links between buildings and parking lots, and to create secure pedestrian circulation throughout the site.



PEDESTRIAN CIRCULATION: PHASE ONE



PEDESTRIAN CIRCULATION: FULL BUILD OUT

- TEMPORARY GREEN CORRIDORS
- GREEN CORRIDORS
- SECONDARY PATH
- OUTDOOR GREEN SPACE
- PLAZA
- NEW PEDESTRIAN CONTROLLED TRAFFIC LIGHT

D.3.5 Vehicular Circulation

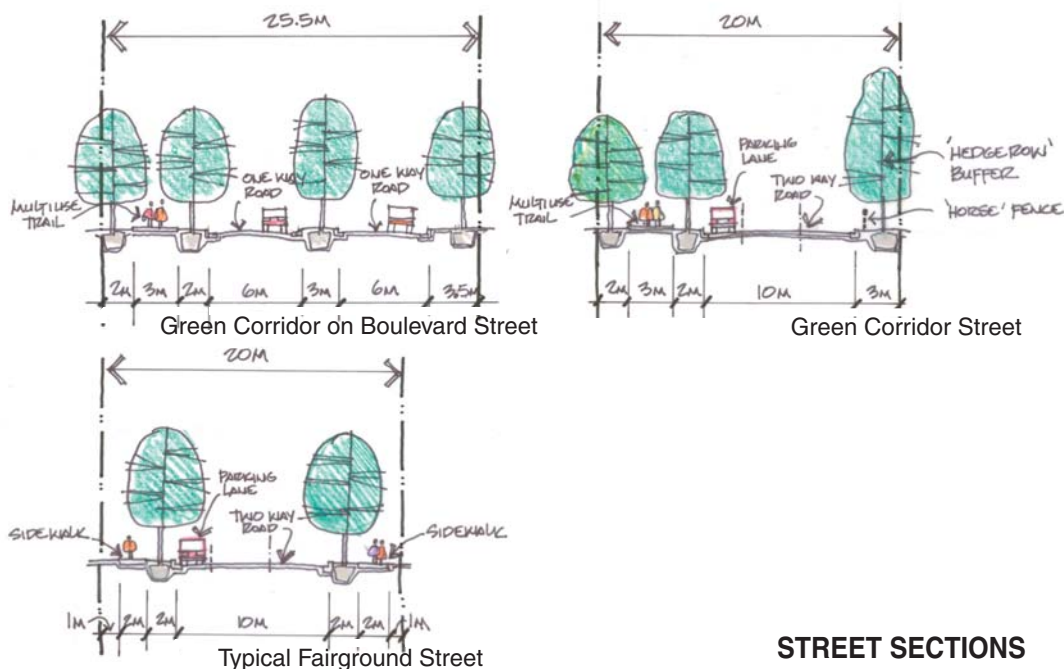
The street layout will provide a number of vehicle route options to move traffic through the site. The road network builds on the existing traffic light controlled access points, roads and parking areas. 62nd Ave. will act as the major east/west thoroughfare through the site. 177B St. will be extended from 64th Ave to 62nd Ave. and 176A St will connect 60th Ave with 62nd Ave. In the first phase these streets will be made up of a combination of existing roads, existing paved parking areas and new construction. The streets would be upgraded and new streets added, as new buildings and parking areas are developed, and as capital funds allow.

Another key planning objective of the street design is to make it as flexible as possible to cater to event and non-event scenarios. The streets proposed are generally of two types: Central Boulevard streets and Typical Fairground Streets.

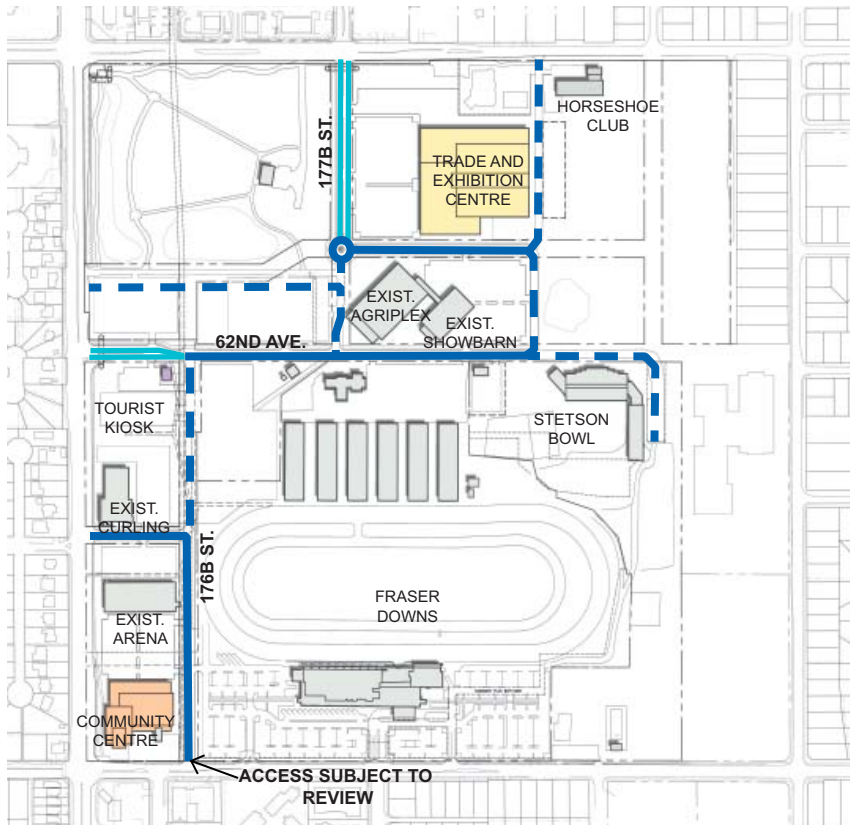
Central Boulevard Streets are located at the two major access/exit points to the site, will have a 25.2 meter right-of-way. They will include two-6 meters wide roadways. This will allow two lanes of traffic in both directions.

Typical Fairground Streets will be 10 meter wide roads contained within a 20 meter right-of-way. The two way road that will accommodate parallel parking on one side. During major events, parking will not be permitted freeing up the parking lane for traffic movement.

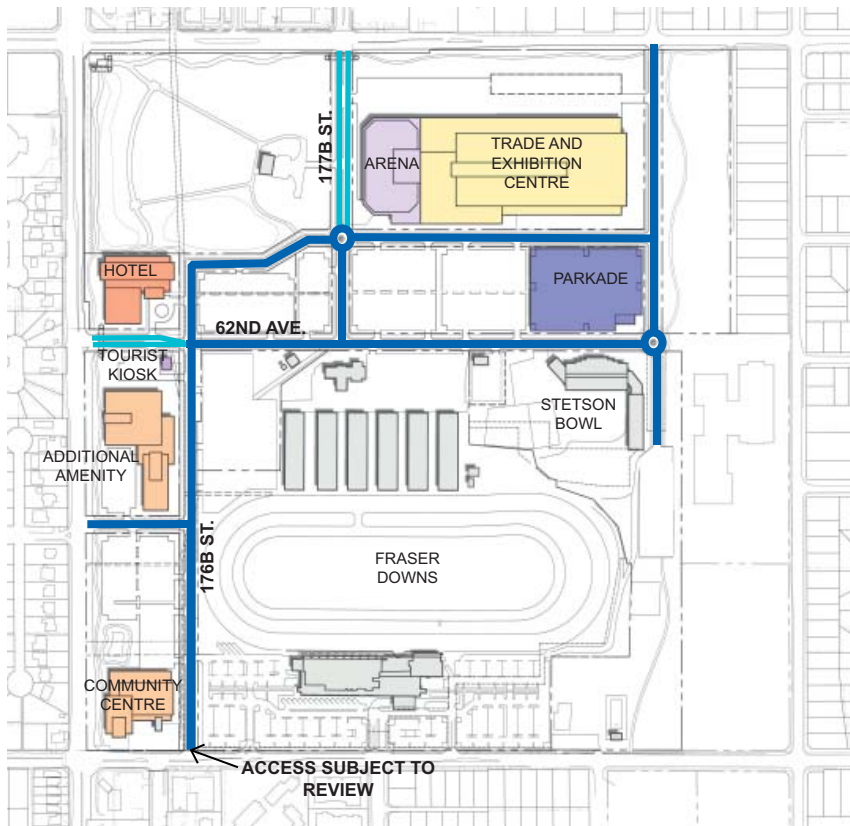
A more detailed description of the street network is provided in section G.2 Transportation Review, in the attached appendix.



STREET SECTIONS



VEHICULAR CIRCULATION: PHASE ONE



VEHICULAR CIRCULATION: FULL BUILD OUT

- FAIRGROUND STREET
- BOULEVARD STREET
- TEMPORARY STREET

D.3.6 Vehicular Parking & Tree Buffers

Provision of parking on the Fairground site is a particular challenge, especially with the regional attractions proposed for the site. In the first phase of the redevelopment approximately 1220 parking stalls would be required for the community and regional uses on site. These stalls would be accommodated within surface parking lots on the site. In the final built out this number could increase to approximately 4530 stalls, subject to final engineering review.

In Phase One, all the parking is accommodated by surface parking lots located adjacent to the uses. The parking for the community uses are separated from the parking for the regional attractions. Curb-side parking would also be available; however a large portion of this parking would not be available during major events, to facilitate traffic movement during these high demand periods.

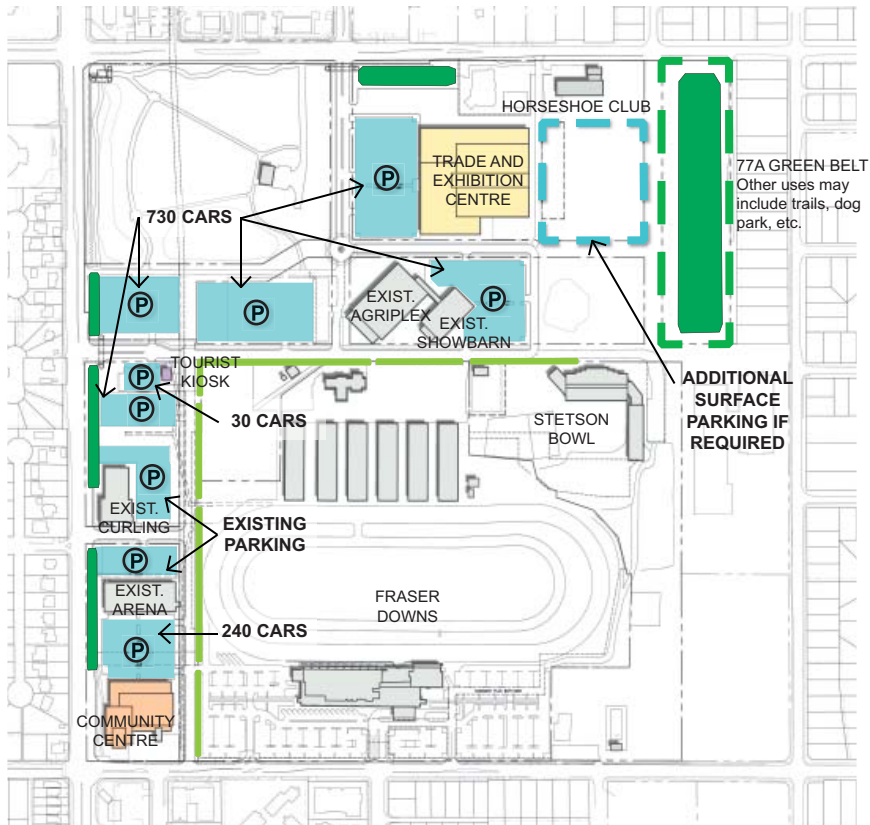
Many of the parking lots proposed for Phase One are existing parking areas. The Concept Plan proposes that the parking and loading areas be screened from the perimeter roads (Hwy 15, and 64th) by planting and architectural screening. Large parking areas will be broken down by pedestrian friendly pathways and landscaping.

While the 77A Green Belt is identified for passive park uses, it is also recommended that this area adjacent to the single family residences be planted in the Phase One to create a tree buffer to provide a visual separation from the future Trade & Exhibition Centre expansion.

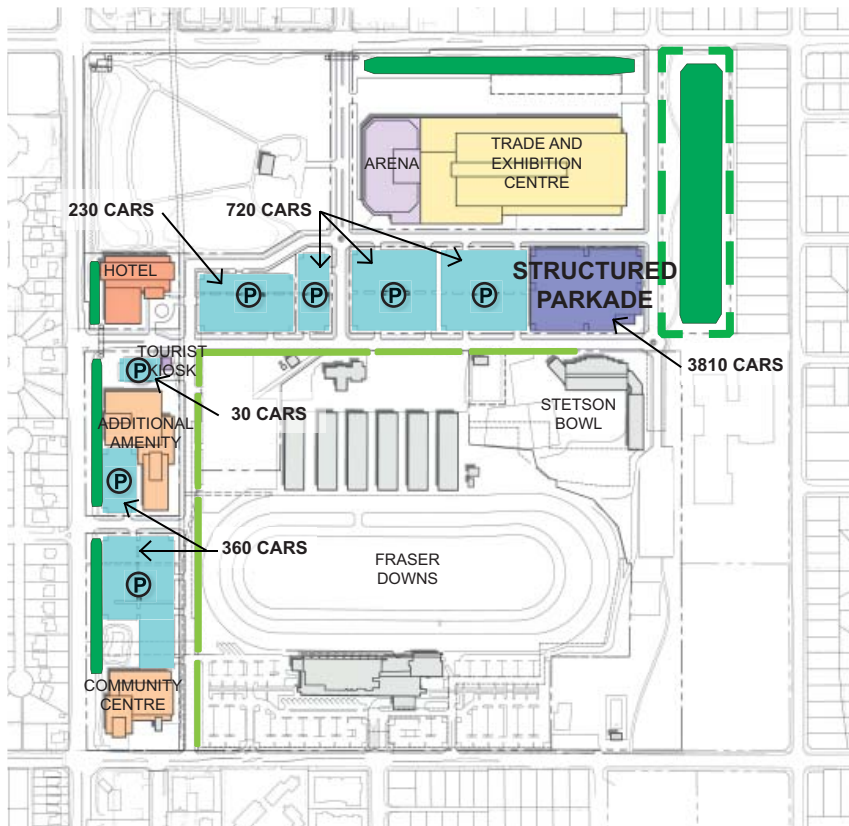
Before the full build-out for the Concept Plan, the demand for parking for the Trade & Exhibition Centre, Spectator Arena, and the Stetson Bowl will likely exceed the land available to accommodate surface parking. At that time, a multiple level parking garage will be required. This building would be located close to the facilities it will serve, and provide efficient access and dissipation of cars by three adjacent streets.

A more detailed description of the parking requirements is provided section G.2 Transportation Review, in the attached appendix.




In order to delay the construction of the parking garage, a number of strategies may be explored to increase the available parking. Accessing the approximately 300 parking spaces in the Fraser Downs overflow parking lot during high demand periods may be possible. Fraser Downs race track is also annually used as parking for the Cloverdale Rodeo.



VEHICULAR PARKING & TREE BUFFERS: PHASE ONE



VEHICULAR PARKING & TREE BUFFERS: FULL BUILD OUT

-  TREE BUFFERS
-  WIND ROWS
-  PARKING

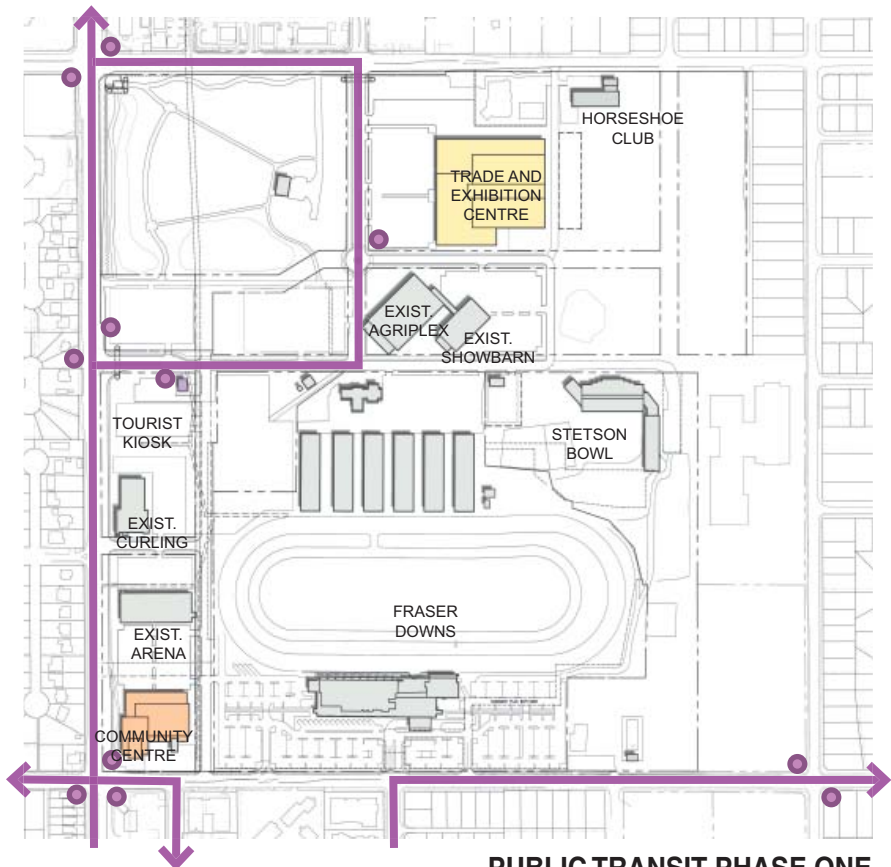
D.3.7 Public Transit

Existing public transit service is provided primarily along Highway 15. However, if transit is to play an important role in reducing vehicular trips and the need for parking, improvements to this service will be required, particularly when the Trade & Exhibition Centre and Spectator Arena is built and during major regional events. This will require discussions with Translink & Coast Mountain Bus Company when these regional events are planned and when the Trade & Exhibition Centre and Spectator Arena proceeds.

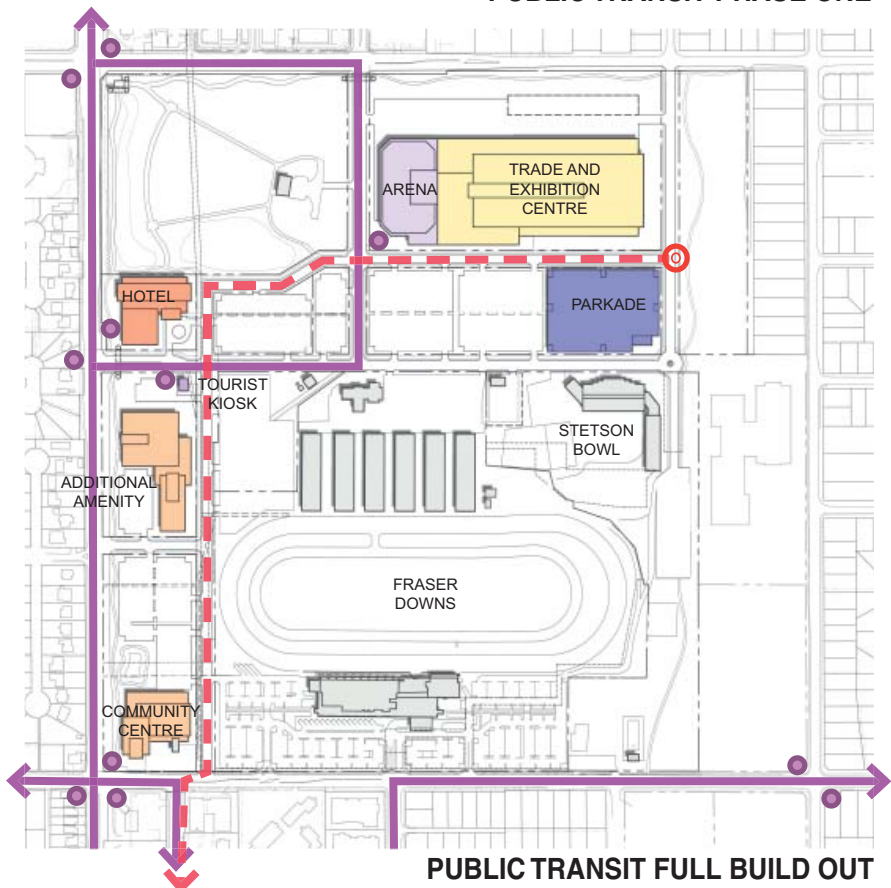
The new street network allows the opportunity to loop a bus service into the site via Highway 15 and 62nd Ave, stopping at the Tourist Kiosk and on 177B St. adjacent to the Trade & Exhibition Centre. The proposed street widths will accommodate the waiting buses. Another incentive to attract visitors to use transit may be to provide a free shuttle service from King George Skytrain Station.

The Concept Plan layout accommodates a proposed tourist streetcar line along 176A St., which may extend northward through the Fairgrounds site. Crossing 60th Ave may be accommodated by arranging the streetcar to control the new pedestrian controlled traffic light just east of 176A St. at the new north/south Fairground road, 176B St. The streetcar would run northward along the new 176B St. to the Amphitheatre and then eastward past the Trade & Exhibition Centre. The parking curb lane along these streets will be removed to allow for the streetcar alignment, which will likely run down the centre of the street. Because the streetcar operates both directions, only one set of tracks will be required, and no turntable is required at its terminus.





Because of its complexity, the potential streetcar service will require extensive planning and design to establish the extent of the route, and its alignment and street crossing requirements. It will be subject to discussion and review by the City Engineering Department.



PUBLIC TRANSIT PHASE ONE



PUBLIC TRANSIT FULL BUILD OUT

-  BUS ROUTE
-  BUS STOP
-  POTENTIAL STREETCAR ROUTE (SUBJECT TO REVIEW)
-  STREETCAR TERMINUS

D.3.8 Landmarks and Gateways

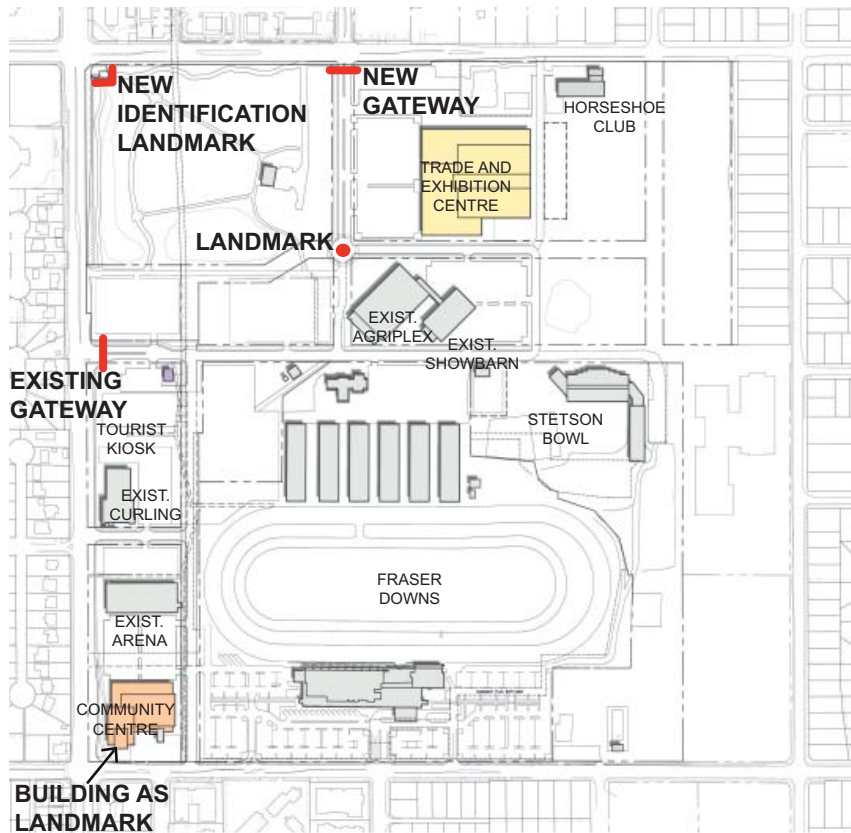
It is important to establish a unique and cohesive identity for the Fairground site, which is compatible with its prominence as a regionally significant development. To increase the visual profile of the site, a series of “markers” are proposed.

Large identification landmarks are suggested at the prominent northwest and southwest corner of the site along Hwy 15. These will be designed and sized to be strong visual boundary markers, and may provide an opportunity to advertise events occurring on the site. The marker at the northwest corner adjacent to the small public plaza should be a free standing structure, while the southwest marker could be integrated into the community centre as an expressive tower-like element at the corner.

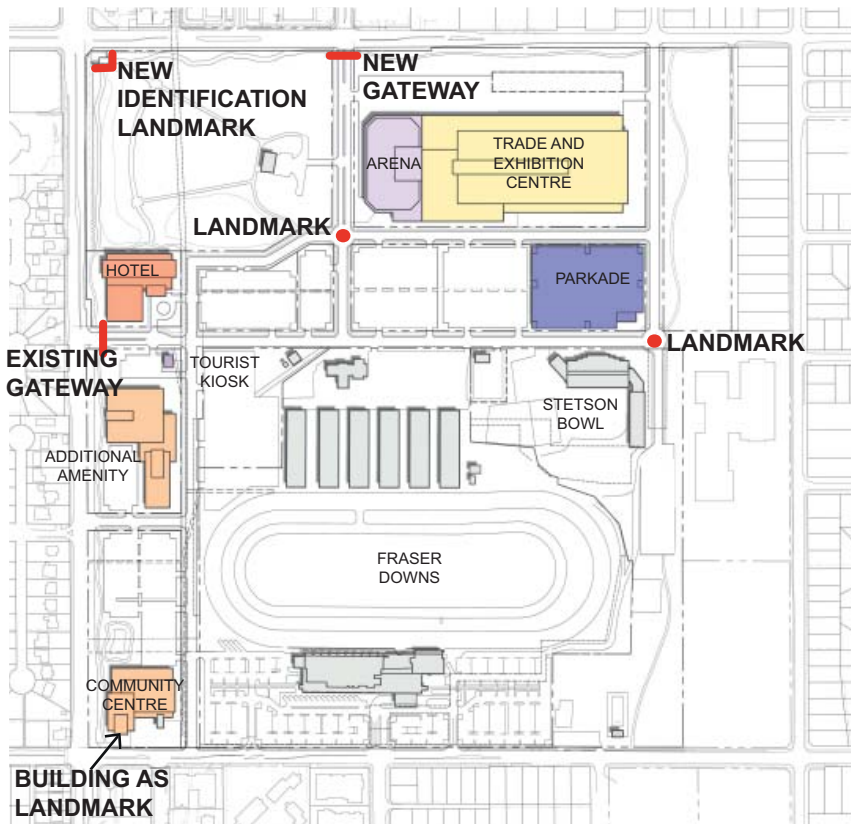
Given the size of the site, wayfinding elements within the property will also be important to guide the first time visitor. The Concept Plan suggests erecting an archway over at the entrance to 177B St at 64th Ave., which relates to, but does not copy the existing log archway at the 62nd St. entrance. Additional wayfinding landmarks are proposed at the terminus to 62nd Ave and aligned with 177B St.

The Heritage Plaza at the southwest corner of the site will serve as the major pedestrian entry into the site from the Town Centre.

The markers illustrated in the Phase 1 Plan would be erected in a sequence that relates to the staged improvements to the site. It is proposed that Identification Landmark at the corner of Hwy 15 and 64th Ave would be constructed first. The Landmark at the south-west corner of the site at Hwy 15 and 60th Ave would be constructed with the Community Centre. The Gateway along 64th at 177B St. would be erected in conjunction with Trade & Exhibition Centre along with the wayfinding landmark aligned with 177B st.



LANDMARKS AND GATEWAYS: PHASE ONE



LANDMARKS AND GATEWAYS: FULL BUILD OUT

Cloverdale Fairgrounds Concept Plan

Downs/Archambault & Partners

— GATEWAY
● LANDMARK

E. PLACE MAKING

In addition to the physical program requirements of the redevelopment, the Cloverdale Fairgrounds must express the vitality of the site as a regional attraction and a vibrant community asset. To convey to the public this sense of place, the Concept Plan shall use several design strategies:

- Program and Activity Strategies
- Form and Character Strategies
- Environmentally Sustainable Strategies

E.1 Program and Activity Strategies

The redeveloped Fairground site should be a place that will attract all age groups and interests, with a very wide range of uses and activities. Events will occur daily, weekly or annually. To encourage the greatest use of the site, a wide range of public activities need to be programmed on the site. With the proposed additional facilities and amenities, it is recommended a central programming and scheduling agency be identified to promote the Fairgrounds and co-ordinate its site-wide use.

Along with programmed uses and activities, the Concept Plan allows:

1. Casual/informal activities to occur.
2. Buildings and outdoor spaces should be designed to create defined flexible spaces for casual or programmed activities.
3. The Heritage Plaza should allow activities for individuals and small groups
4. Activity nodes should be arranged along the Green Corridors, and would include building entrances, seating areas, heritage interpretation places and other outdoor features that will encourage the public to use the site.

E.2 Form and Character Strategies

The Fairground redevelopment should enhance and connect with the Cloverdale community by building on the site's historic past, and on the heritage character of the Cloverdale community. In addition it must create a vibrant development to attract visitors to both the site and beyond - to the city of Cloverdale.

Recent commercial developments in the neighbourhood have integrated heritage elements into their architecture and landscape design. While it is important to maintain this heritage character in the concept plan, there is a need to establish a strong cohesive expression and character, unique from the adjacent developments.

Given the size of the property and the wide range of facilities planned a comprehensive design approach is required to contextualize the site within the surrounding cultural and architectural landscape, and to provide the bold expression that will mark the regional significance of the site. The Concept Plan achieves this through two co-existing layers of architectural vocabulary: the micro scale and the macro scale.

At the micro or pedestrian scale, the treatment of the pathway network, plazas and landscape will reflect the connection to the community and the heritage elements on site. With the larger scaled elements of the Concept plan - at the macro scale - the character and forms of the buildings and landmarks will take on a bolder contemporary expression.

The following are the characteristics of each scale:

Micro Scale: The pathway network, plazas and landscape treatment connects the Cloverdale Community by interpreting the sites heritage and context. The design of these components shall:

1. Create a story from the current or past uses on site: Cloverdale creek and mill pond, the Hadden Mill, 1881 Hall, the Vally School, Agriculture, rodeo, horseracing and a railway line along 176 Street.;
2. Use contextual materials and colours in buildings and landscape: brick, heavy timber, white horse fence;
3. Provide a strong connection with the Town Centre by using street furniture and pathway elements that are strongly associated with Cloverdale Town Centre precedents;
4. Create Historical Focal Points: Heritage Plaza, Tourist Plaza and Exhibition Plaza
 - a. Integrate the 1881 Town Hall, and first school monument into Heritage Plaza;
 - b. Possibly relocate and re-use a heritage building for the Tourist Kiosk;
5. Create Public Art Opportunities
 - a. Focal – commissioned themed artwork;
 - b. Integrated – (commissioned, or community generated) themed furniture;



Heritage Plaza scaled and detailed to compliment historic Cloverdale



Animate courts for evening use with lighting



Develop Green Corridors that invite community use



Design amenities that use native Cloverdale materials



Create an urban Exhibition Esplanade with contextual features



Use festival lighting



Create well defined public gathering and celebration spaces



Choose landscape elements that speak to the history of the site

CONCEPT IMAGES: MICRO SCALE

Macro Scale: The Buildings and Landmarks should connect to the region by creating a cohesive contemporary expression. The design of these components should:

1. Possess a commonality of architectural language that
 - a. provides a strong visual expression;
 - b. includes comprehensive design linking all buildings and landmarks, identifying the Fairgrounds Site as a singular and special destination next to the Cloverdale Town Centre;
 - c. uses unique landmarks to signal arrival to the site;

2. Provide contemporary expression, which
 - a. is forward looking ;
 - b. makes bold architectural gestures appropriate to the scale of the buildings and landmarks;
 - c. uses contemporary building materials and heavy timber a contemporary way;
 - d. uses warm building colours;

3. Include an innovative use of lighting and signage elements.



Develop articulated building forms



Use warm building colours



Use heavy timber in contemporary ways



Make bold architectural gestures



Public buildings may be landmarks



Celebrate the vitality of these regional facilities



Propose unique landmark elements to signal arrival



Use lighting to accent major features



Express entrances

E.3 Environmentally Sustainable Strategies

The following strategies shall be implemented in the redevelopment of the Fairground site:

1. Open Space and Landscape:
 - a. Phasing strategy that allows green space retention until future demand for building sites is confirmed;
 - b. Start buffer and/or under-storey planting program in the first phase of the development;
 - c. Develop a storm water management strategy that may include storm water detention ponds and infiltration swales as landscape features;
 - d. Maximize opportunities to incorporate porous paving materials in parking areas, and the road network, and consider gravel or other highly permeable surfacing for overflow parking areas;
 - e. Develop a green highway edge buffer to mitigate impact of Highway #15;
 - f. Minimize the requirement for irrigation, incorporate water-efficient irrigation systems where required and /or incorporate a strategy to utilize retained storm water for irrigation;
 - g. Maximize the use of native drought tolerant vegetation and remove invasive non-native plant species from the site;
 - h. Plant deciduous trees in parking lots and along streets to minimize heat island effect and provide summer shade.

2. Pedestrian Environment:
 - a. Ensure that the site design provides interest to the community and contributes to a safe, pedestrian-friendly precinct that incorporates design principles of “Crime Prevention Through Environmental Design” (CPTED);
 - b. Develop a multi-use barrier-free Green Corridor path system throughout the site with connectivity to neighbourhoods and trail and Green Corridor systems beyond;
 - c. Provide a clear hierarchy of small gathering areas or courts at critical locations in order to stimulate interaction and contribute to social sustainability;
 - d. Provide pedestrian amenities at key areas on the site such as benches, drinking fountains, public art etc. that contribute to way-finding and comfort;

- e. Minimize light pollution and promote dark sky retention on the site through the use of appropriate (sharp cut-off) street and path lighting;
 - f. Develop an interpretive and educational strategy to showcase environmental initiatives and provide opportunities for outdoor classrooms.
3. Transportation:
- a. Explore future possibilities to minimize the amount of area dedicated to surface parking and encourage other modes of transportation such as bicycles and dedicated transit shuttle buses;
 - b. Design the site to incorporate adequate bus linkages by accommodating dedicated shuttle bus stops and shelters;
 - c. Design on-site roadway system for pedestrian safety;
 - d. Provide secure bicycle parking at all site facilities;
 - e. Explore opportunities to incorporate a heritage streetcar from downtown Cloverdale to the site in the future.
4. Building Design:
- a. Design buildings that consider retention of adjacent significant trees or tree groupings where feasible;
 - b. Develop building strategies that conserve energy and water; eg: green roofs, low flush toilets, grey water re-use, shared energy systems, recycling etc.;
 - c. Maximize the utilization of locally produced, recycled, durable, and recyclable building materials;
 - d. Consider setting targets for LEED equivalent buildings.

F. LANDSCAPE RECOMMENDATIONS

The Concept plan makes specific recommendations of improving the hard and soft landscape on the Fairground site. The landscape objectives as stated earlier are:

1. Create clear and understandable pedestrian circulation
2. Create an attractive pedestrian realm
3. Reinforce the pedestrian connection to the Town Centre
4. Create a site with abundant and high quality landscaping
5. Integrate heritage opportunities within the concept plan

F.1 Pedestrian Pathway Network

The Concept Plan envisions a comprehensive and readily understandable network of pedestrian Green Corridors, sidewalks, trails and linkages that allow the pedestrian to easily connect to, and navigate through, the site. Green Corridors in particular should be designed as multi-use pathways that accommodate cyclists or roller-bladers as well as pedestrians. (Figure F 1.0)

Critical to the pedestrian experience throughout the pathway network are the topics of wayfinding, comfort, safety, connectivity, and visual interest.

1. **Wayfinding:** a clear and coherent system of signs and visual cues will assist the pedestrian in navigating the pathway network within the site. Signs include trailhead markers or monuments with orientation maps, as well as directional signs such as pole mounted blades that direct to destinations and linked routes. Visual cues include the incorporation of system-wide colour and branding, as well as standardized hierarchy of pathway designs. A system of coordinated street furniture at regular intervals will also assist with wayfinding. (Figure F 1.1)
2. **Comfort:** pathway width should be based on frequency of use and intended mode(s) of travel. Amenities, including street furniture, should be placed at regular intervals. (Figure F 1.2) The system should allow for walking or jogging loops of various lengths to accommodate all users. Shade trees should provide summer comfort from the heat.
3. **Safety:** the pathway network should be designed to conform with CPTED (Crime Prevention Through Environmental Design) and TAC (Transportation Association of Canada) standards, be of adequate width where multiple modes of use are anticipated and provide safe and shortened roadway crossings. Lighting, if provided, should be to accepted illumination standards with sources shielded. Maximizing “eyes on the street” is further encouraged.

4. **Connectivity:** the pathway network must link beyond the site to existing or anticipated municipal trail and bike systems as well as to major destinations including downtown Cloverdale. In addition, secondary and tertiary pathways must link all destination points within and adjacent to the site.
5. **Visual Interest:** the pedestrian pathway system should encourage the use of non-vehicular modes of transportation. In order to do so it needs to be visually stimulating, informative, and occasionally offer surprise. The incorporation of public art, surface applications or imprints that tell a story or emphasize a theme is encouraged. (Figure F 1.5)



Figure F 1.0



Figure F 1.1



Figure F 1.2



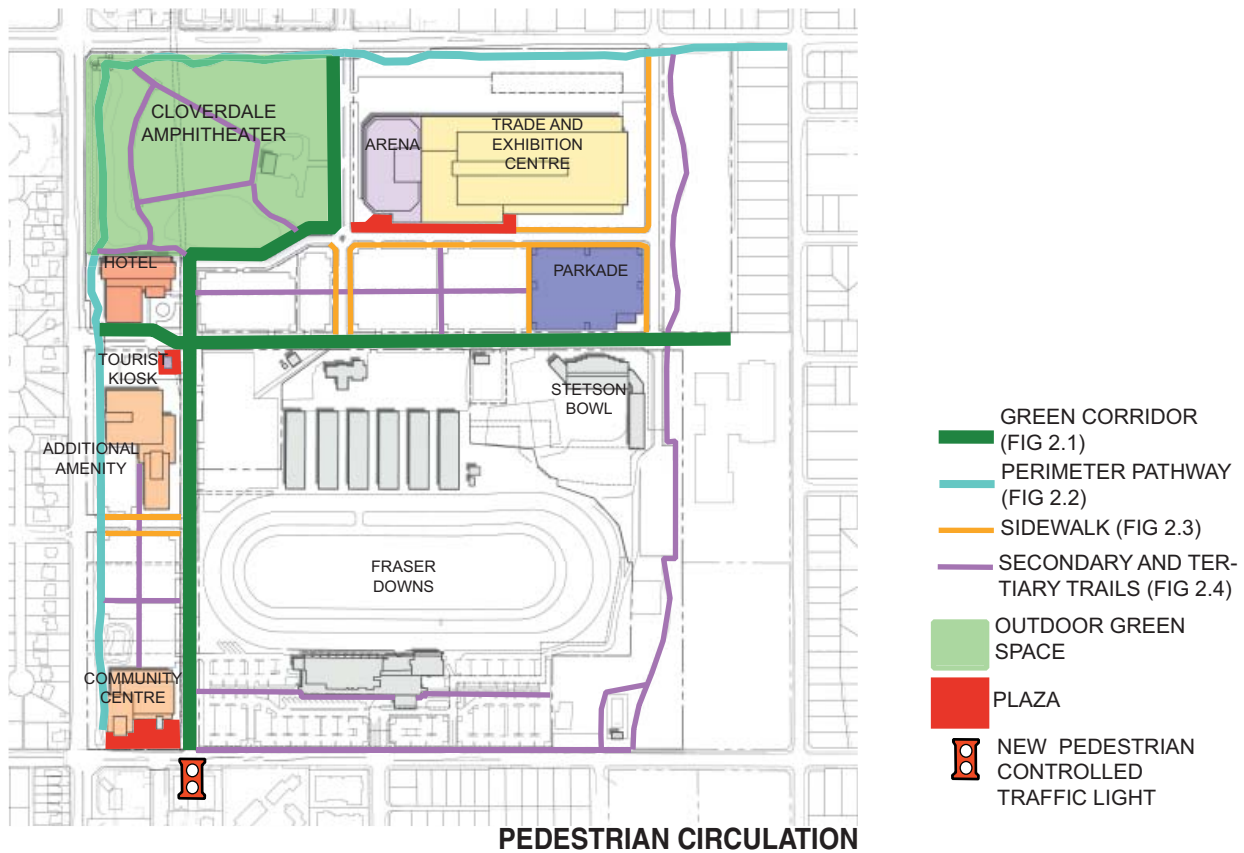
Figure F 1.5

F.2 Pathway Standards:

1. Fairground Green Corridors: comprise the primary off-road multi-use circulation routes through the site. Green Corridors are intended to be a practical alternative to the automobile. They should be tree lined, “green” and inspiring. Green Corridors are relatively wide to accommodate alternate modes of non-motorized transportation comfortably and safely without conflict. They should be designed to accepted standards; in particular to TAC (Transportation Association of Canada) Standards with a minimum sustained horizontal width of 3.0m - adequate to allow a cyclist to safely over take and pass two pedestrians walking abreast. Opposing pairs of pedestrians can also comfortably pass on a route with a 3.0 m horizontal width. However, an absolute minimum width of 2.5 m is acceptable for short distances where the standard is unachievable due to site constraints. In general a 6.0 m wide route corridor straddling the path, clear of brush etc., for sight lines is recommended. A minimum 600 mm clearance to lateral obstructions such as signs or trees is also recommended. Green Corridor surfacing should be smooth to facilitate the greatest variety of users. Cast concrete is recommended for this application. Tactile (textured) or contrasting colour strips may be incorporated horizontally across the pavement to warn of upcoming intersections. Apparent path width may be visually narrowed through the incorporation of inset contrasting pavers along the edges of the path. Divisions, such as central painted lines or tactile strips separating uses is not recommended for this application. Green Corridors should be adequately lit and provide resting places at regular intervals. (Figure F 2.1)
2. Perimeter Pathway: a multi-use perimeter pathway, to “Green Corridor” horizontal and clearance standards, as noted above, is anticipated for two edges of the site. Surfacing should be relatively smooth but may be more economical. Asphalt or fine crushed granular surfacing are logical alternatives to concrete. The perimeter pathways are not necessarily tree-lined, but may be more informally enhanced with soft landscaping. Lighting is optional; however, if lighting is provided it must meet accepted standards. Perimeter pathways should provide resting opportunities at regular intervals. (Figure F 2.2)
3. Sidewalks: these generally parallel the site-wide roadway system and provide secondary pedestrian circulation between all major facilities where no Green Corridor is anticipated. They are not necessarily included on both sides of all roadways and they are not intended for multi-use applications. A minimum 1.5m horizontal width to an ideal 2m is recommended. Physical separation from roadways in the form of tree-lined boulevards is further encouraged. Sidewalk surfacing should be smooth cast concrete.

Route corridors should be free of visual obstructions as per CEPTED standards. Lighting, possibly incorporated with roadway lighting, is recommended. (Figure F 2.3)

4. Secondary and Tertiary Trails: these generally provide second and third levels of pedestrian links to destinations, transit stops or facilities and create walking routes through the landscape. Surfacing typically should be smooth yet economical. Concrete is recommended for secondary links, while for tertiary links, asphalt or fine crushed granular surfacing are logical alternatives to concrete. Widths should at a minimum allow two pedestrians to walk abreast (1.5m). Secondary links to Green Corridors or perimeter pathways should be a minimum of 2.5m wide. (Figure F 2.4) Lighting is optional; however, if lighting is provided it must meet accepted standards.



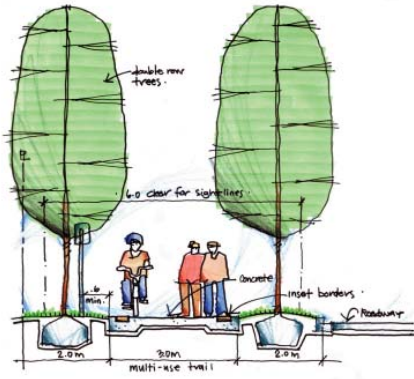


Figure F 2.1

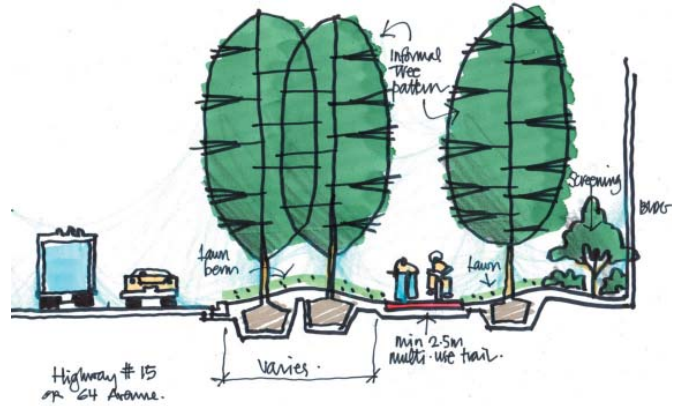


Figure F 2.2

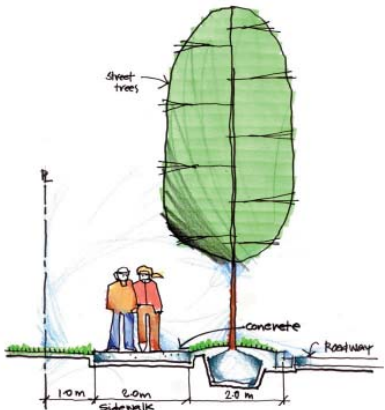


Figure F 2.3

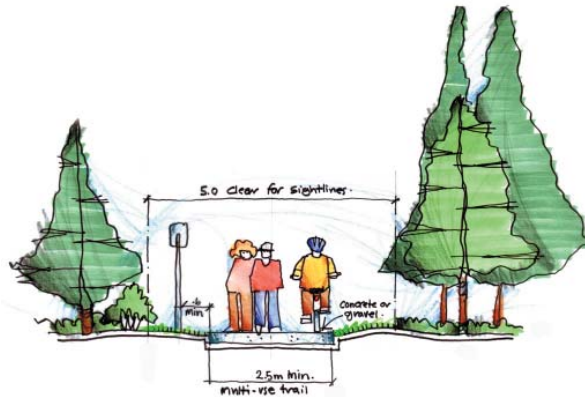


Figure F 2.4

F.3 Signs

To support the creation of a cohesive image and character for the Fairground site, and to support 'wayfinding', the Concept Plan recommends the development of a comprehensive site sign package beyond the required traffic safety sign package. In conjunction with the design of the buildings, the development of a consistent graphic palette for all the non-regulatory signs on the site will reinforce the concept of the site as a single entity that contains a broad spectrum of public use.

This sign program would include the following elements:

1. Identification signs: clearly identify the Fairground site and the individual facilities contained within the site. Signs may be incorporated into landmarks, gateways, trailheads and buildings or may be stand-alone signs on building sites.
2. Directional signs: are typically blades or blanks located on poles, light standards or on sign totems at all intersections, directing visitors to destinations within the site and beyond. Ideally they contrast visually with "street blades".
3. Street blades: are typically located on poles, light standards or on sign totems at intersections. They identify street names and block numbers as well as named pedestrian network pathways. Green Corridor signs should be visually distinct and include standard bicycle glyphs.
4. Interpretation signs: throughout the site a series of information signs should provide explanations of specific heritage or unique features on site.
5. donor recognition: opportunities for donor recognition signs should be explored as part of the sign program. (Figure F 3.5) Ideally donor recognition is integrated into the consistent graphic palette.



Figure F 3.5

F.4 Street Furniture

A “family” of complementary or matching street furniture components is recommended for the site. As noted in Section E: Place Making , street furniture selection is determined at the micro scale to reflect the Cloverdale community and its history. It is intended that installation of street furniture selected for the site could also extend into downtown Cloverdale and be compatible with the historic building fabric. To this end, the recommended street furniture components generally reflect the street furniture images illustrated in the “Cloverdale Town Centre” document.

In addition, the street furniture catalogue must be compatible with the proposed contemporary on-site buildings at the macro scale. For the street furniture to complement both historic and contemporary styles, a simplicity of form and a timeless elegant design is required. Colour should be black. Furniture must be sturdy, with materials and specifications to contemporary standards.

1. Post top light: sturdy post top light - contemporary design version of a traditional light, gooseneck pole, full cut-off. Powder coated or urethane system black. “Domas” by Lumec. Fixture available in two sizes. (Figure F 4.1)
2. Bollard: heavy steel cylinder to match post top light pole. “MTB650” by Maglin or equivalent. Powder coated or urethane system black. (Figure F 4.2)
3. Bench: sturdy ribbon style metal bench. Powder coated black. “Steelsites” bench by Victor Stanley or equivalent. (Figure F 4.3)
4. Trash can: sturdy ribbon style metal trash can to match bench. Powder coated black. “Ironsites” can by Victor Stanley or equivalent. Consider custom frieze. (Figure F 4.4)
5. Bike rack: optional “art” racks, “Leaning Bikes”, “Swizzle Stick” by Creative Metalworks, bright colours or black acceptable. Powder coated or urethane system, ensure two point support. (Figures F 4.5.1, F4.5.2)



Figure F 4.1



Figure F 4.2

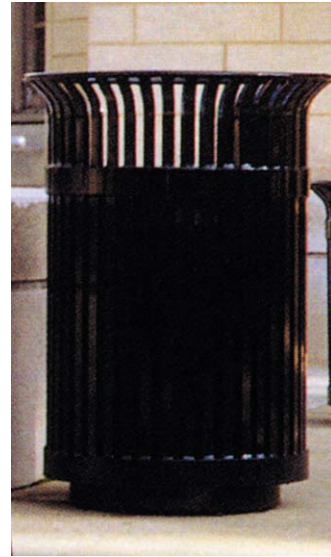


Figure F 4.4



Figure F 4.3



Figure F 4.5.1



Figure F 4.5.2

F.5 Hard Landscape

Hard landscape design provides the structural framework for the pedestrian realm. The sections immediately above outline basic hard landscape components such as pathway standards, the sign plan and street furniture. In addition however there are a number of further components for consideration.

1. Hard landscape materials: should be durable, recycled, and recyclable where possible. Thematically, materials should be appropriate to the history and context of the site (heavy timber, concrete, metal). (Figure F 5.1)
2. Court design: ideally, design of the various public courts should provide infrastructure for flexible special event programming. Hard surface paving for courts should feature premium durable materials such as concrete unit pavers or coloured textured concrete with carefully designed edges. Where logical, raised concrete or heavy timber edges should provide informal seating opportunities. (Figure F 5.2)
3. Fencing: horizontal wood “agricultural” rail fencing is recommended to delineate the west and north edges of the Fraser Downs lease land. (Figure F 5.3)
4. Weather protection: throughout the site, heavy timber bus stops or other intermittent overhead protection should be provided for pedestrian comfort.
5. Water features: consideration of one themed water feature, with accent lighting, in the largest gathering place is recommended. Elsewhere throughout the site, the collection and celebration of storm water is encouraged.
6. Permeable paving: should be considered for flexible programmed hard surface areas. Rima pavers, or equivalent, slows storm water discharge. Logical locations include overflow parking areas. (Figure F 5.6.)
7. Traffic calming: raised crosswalks or intersections, paved in contrasting hard surface materials, should be provided at all Green Corridor and major pedestrian crossings to emphasize pedestrian priority. Curb “bump outs” to narrow carriageways at pedestrian crossing should also be considered.
8. Monuments: major gateway elements, project signs, and trailheads should be constructed with heavy solid materials relevant to the site.



Figure F 5.1



Figure F 5.3



Figure F 5.6



Figure F 5.2

F.6 Soft Landscape

Planting design should frame buildings and define open spaces, emphasize site uses and history, provide a rich palette of colour, texture and seasonal change and support sustainable initiatives. All planting design should reflect CPTED principles and use best arboriculture practices, in consultation with the City Arborists at the concept stages.

While the planting material associated with the buildings will be provided with each building project, it is recommended that several tree buffers and windrows be planted during the initial implementation of the Phase One of the Concept Plan. (Please see section D.3.6 Vehicular Parking & Tree Buffers) These areas include buffers in the 77A Green Belt, and along Hwy 15 adjacent to the existing parking lots and the windrows bordering Fraser Downs.

1. Shrubs: where possible, shrub plantings should include drought tolerant native species exhibiting seasonal interest and providing some habitat value. Example native, or native-like shrubs include: Shrubby Cinquefoil, California Lilac, Red-twig Dogwood, Rugosa Rose, Oregon Grape and Sword Fern. Evergreen shrubs or hedging such as Yew, Photinia, or Laurel should be selected where year-round screening of infrastructure, parking, loading areas or other negative views is required. Similarly, broadleaf evergreen shrubs may be incorporated to provide a deep green background to frame seasonally flowering materials. Understory planting at areas of native conifers should reflect local natural woodland understory. The incorporation of native shrubs across the site will minimize future irrigation and maintenance requirements. Higher maintenance ornamental plantings may draw attention but should be confined to gateways and formal building entries. (Figure F6.0 & F 6.1)
2. Trees: matched deciduous street trees on standards should line primary axial streets and Green Corridors. Examples include Flowering Pear, Red Maple. Sweetgum and Magnolia. Informal landscapes of mixed tree species, including conifers, should be located on project sites within the Fairgrounds to contrast and complement the formal street tree patterns. Tree form, size, and spacing should be selected to emphasize design intent. For example tall fastigate trees in a tightly spaced linear “wind break” pattern, planted adjacent to a white rail fence along the perimeter of the “horse” areas, emphasizes the idea of the agricultural edge. Broad form trees planted in boulevards adjacent to roadways will help visually reduce the apparent scale of the roadways and calm traffic. (Figures F 6.2.1, F 6.2.2)
Where there is sufficient space, a mix of native coniferous trees may be used to supplement the existing trees and provide seasonal interest.

3. Existing Trees: where possible, and through phasing considerations, existing stands of mixed natural woods should be retained in the short term pending future phases of development. Planting of new native trees in select sites to complement existing trees and to mitigate the impact of future tree removal should be considered. Individual existing trees or rows of trees should be assessed and retained where possible, giving the site scale and to maintain historic remnants of the site.
supplemental wetland species. (Figures F 6.4.1, F 6.4.2)

4. Infiltration Swales: landscaped swales provide an opportunity for on-site storm water collection, retention and recharge into underlying soils. The result is a decreased and delayed storm water flow to municipal collection systems. Swales may be grass-lined or gravel lined and planted with supplemental wetland species. (Figure F6 6.4.1, F6.4.2)



Figure F 6.0



Figure F 6.1



Figure F 6.2.1

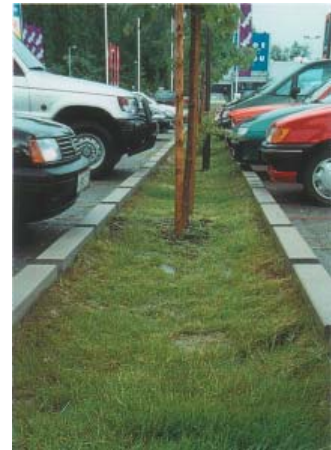


Figure F 6.4.1

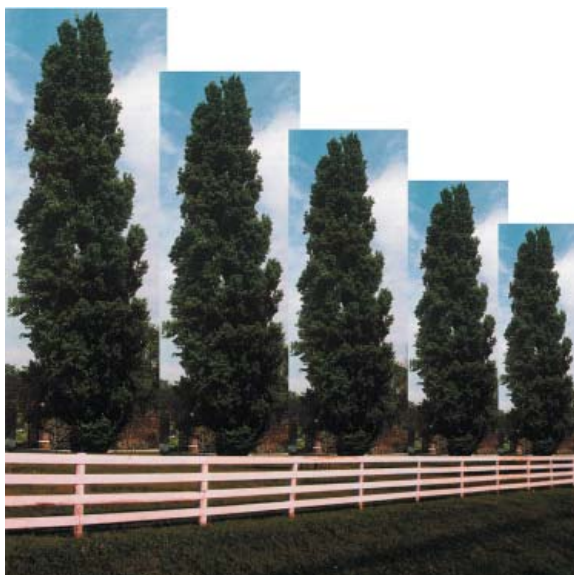


Figure F 6.2.2



Figure F 6.4.2

G. APPENDIX

G.1 Preliminary Underground Services Plan



PRELIMINARY UNDERGROUND SERVICING PLAN CLOVERDALE FAIRGROUNDS CONCEPT PLAN

Draft, April 3, 2007

PROJECT MANAGEMENT ■ ENGINEERING ■ PLANNING ■ SURVEYING

SUITE 201 – 12448 – 82ND AVENUE, SURREY, BC, CANADA, V3W 3E9, TEL: 604-597-9058,



A. Existing Services

The general topography for the area indicates that the uplands fall moderately to the west, towards the site. The site is relatively flat and falls slightly west towards 176 Street and virtually falls at zero percent grade southerly to 60 Avenue.

The existing storm sewers in and around the Cloverdale Fairgrounds are shown in green colour on Figure 1 – Existing Storm Drainage. The Cloverdale Fairgrounds has two existing detention ponds located in the northwest corner of the site, where the Cloverdale Amphitheatre is presently located. A third existing detention pond is located at the east end of the site, north of 62 Avenue. The existing storm sewer system functions reasonably adequate for the existing conditions. The drainage system from the Cloverdale Fairgrounds flows westerly and then southerly along a general alignment of 176A Street, to east of the various buildings that front 176 Street.

The existing sanitary sewers in and around the Cloverdale Fairgrounds are shown as red lines, as identified on Figure 2 – Existing Sanitary Sewer. The existing sanitary sewers on the site drain westerly to existing sanitary sewers located at 176 Street. The sanitary sewer on 176 Street drains south to 60 Avenue. The sewer system then drains south along 176 Street. There are two existing sanitary sewers (a 250 mm diameter and a 600 mm diameter sewer) located along 176 Street, fronting the site.

Figure 2 also identifies a future deep trunk sanitary sewer (running along the 176A Street alignment) that will be constructed via tunneling or boring methods. This sewer will be draining sewerage from the East Clayton areas.

The existing waterworks network is shown in blue on Figure 3. The waterworks pipe sizes appear to be adequate on the four perimeter streets surrounding the Cloverdale Fairgrounds. There is a 400 mm water main on 176 Street, a 350 mm water main on 64 Avenue, from 176 Street to 177B Street, with plans by the City of Surrey to extend the 350 mm water main further east along the Cloverdale Fairgrounds frontage, under their Arterial DCC waterworks plan, in the near future. There is a 200 mm water main along both 180 Street and 60 Avenue, from 180 Street to 176A Street. The remaining portion of the water main on 60 Avenue to 176 Street is a 300 mm diameter. A 300 mm diameter water main also traverses through the site along 62 Avenue and is looped to the off-site water mains on 176 Street and 180 Street.

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B. Cloverdale Fairground Concept Plan

B.1 Proposed Storm Drainage System

Phase One

For the purpose of this report, it is assumed that no downstream off-site drainage improvements are required. This report assumes that a combination of additional on-site detention ponds, roof top detention, parking lot detention and / or an underground detention will be provided with Phase One and during the subsequent Build Out phases. If sufficient storm water detention cannot be provided on-site, a detailed storm sewer analysis of the existing drainage system downstream of the Cloverdale Fairgrounds would be required.

No storm water analysis has been provided as this is beyond the scope of this report. Figure 4 indicates the proposed storm improvements or extension in green. The existing storm sewer systems are shown in black. With additional on-site detention being added to the proposed development, the existing on-site storm sewer system is assumed to be adequate.

Full Build-out

The Build Out phase (Figure 5) shows the storm sewer drainage system extended to the extremities. As each portion of the development advances, each development will be required to provide on-site detention through a combination of roof top storage, surface parking lot or underground detention. A structured parking lot is proposed on top of the existing detention pond system. The design for the structured parking lot will need to accommodate the loss of the detention pond by several means available, as mentioned above, or by enlarging and modifying the existing drainage ponds located in the Cloverdale Amphitheatre.

B.2 Proposed Sanitary Sewer System

Phase One

For the purpose of this report, it is assumed that no downstream off-site sanitary sewer improvements are required. As the land use becomes more clearly identified, a downstream sanitary analysis will be required to determine and identify any downstream constraints. A downstream sanitary analysis is beyond the scope of this report.

Figure 6 indicates the proposed sanitary sewer improvements or extensions in red colour. The existing sanitary sewer systems are shown in black. As shown on Figure 6, it is assumed the existing on-site sanitary sewer on 62 Avenue and 62A Avenue within the Cloverdale Fairgrounds site requires replacement.

Full Build-out

The Build Out sanitary sewer system as identified in Figure 7, is extended further east and north as the Build Out phase is completed.

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B.3 Proposed Waterworks System

Phase One

For the purpose of this report, it is assumed that no off-site water main improvements are required. Dependent upon timing for the development of the Cloverdale Fairgrounds versus the City of Surrey's planned off-site water main improvements along the easterly frontage of the site along 64 Avenue, it may be necessary to have the arterial water main on 64 Avenue constructed with the Cloverdale Fairgrounds. These costs would be reimbursable through the City of Surrey's DCC plan.

Figure 8 indicates the proposed water main extensions in blue. The existing water main systems are shown in black. The proposed water main system is looped between 62 Avenue and 64 Avenue.

Full Build-out

The Build Out waterworks system, as identified in Figure 9 is extended further east and again to 62 Avenue and 64 Avenue. Dependent upon water main analysis and the proposed land use during the detailed design phase, it may not be necessary to loop the water main to both avenues.

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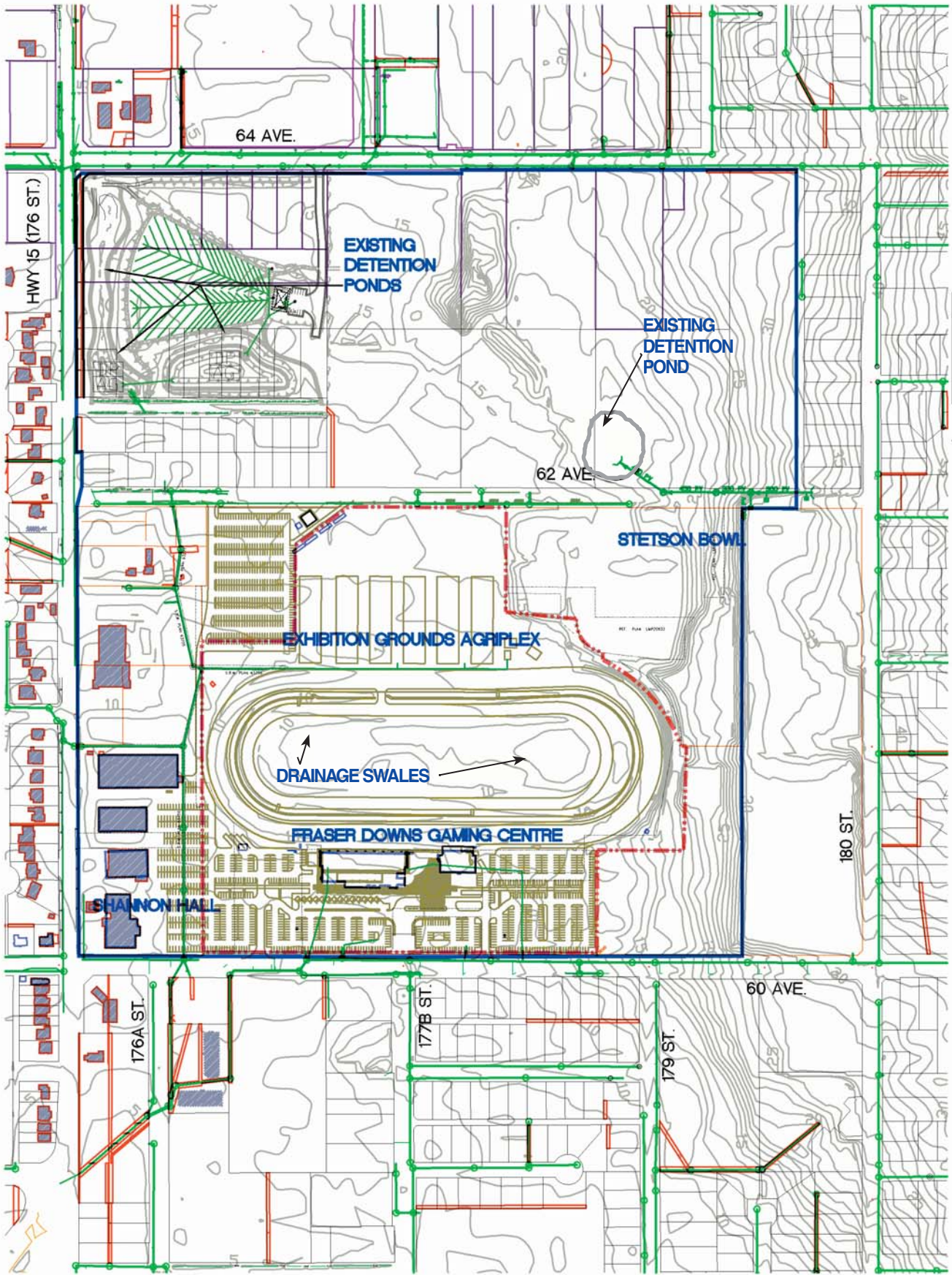


Figure 1. Storm Drainage: Existing

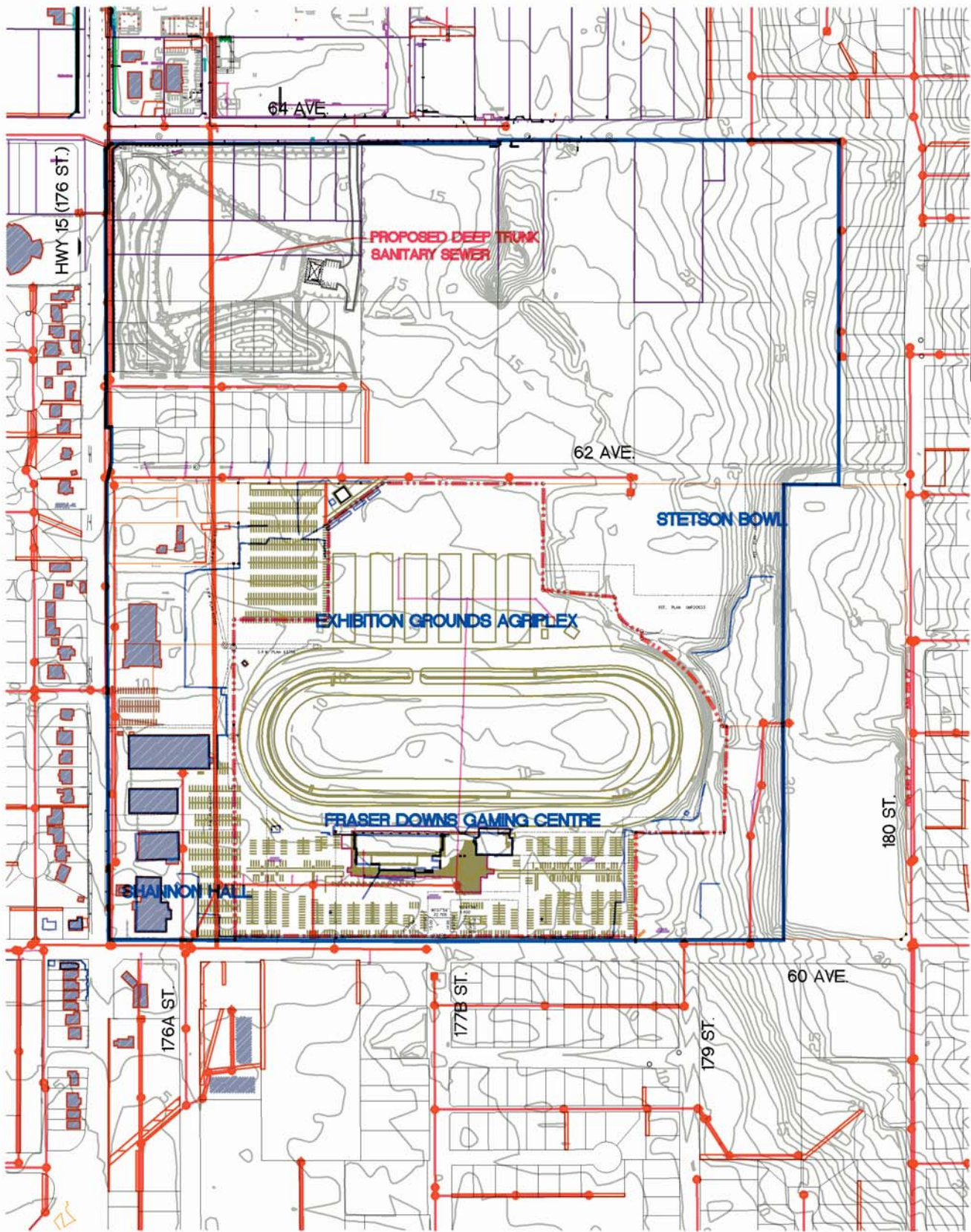


Figure 2. Sanitary Sewer: Existing

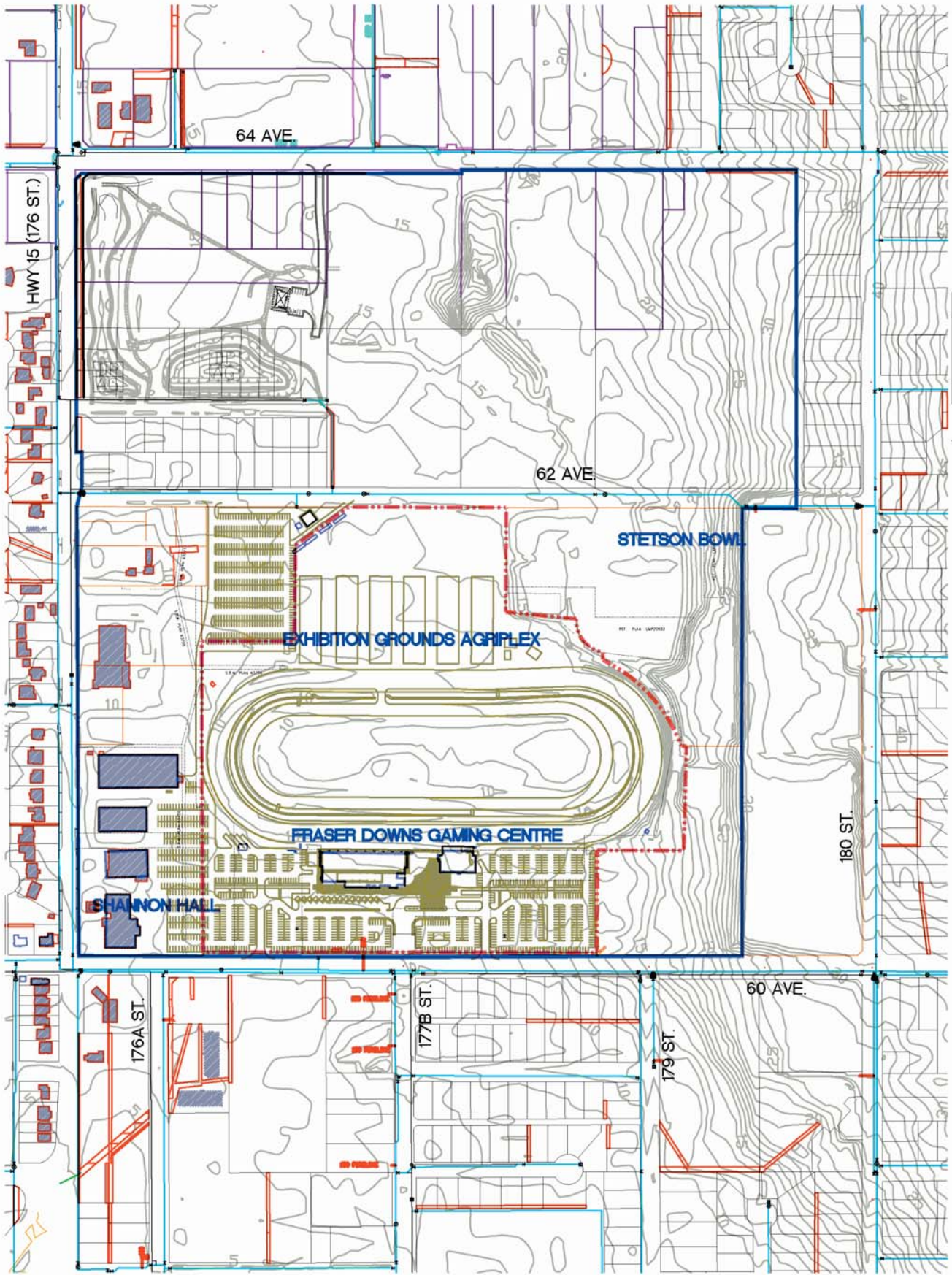


Figure 3. Waterworks: Existing

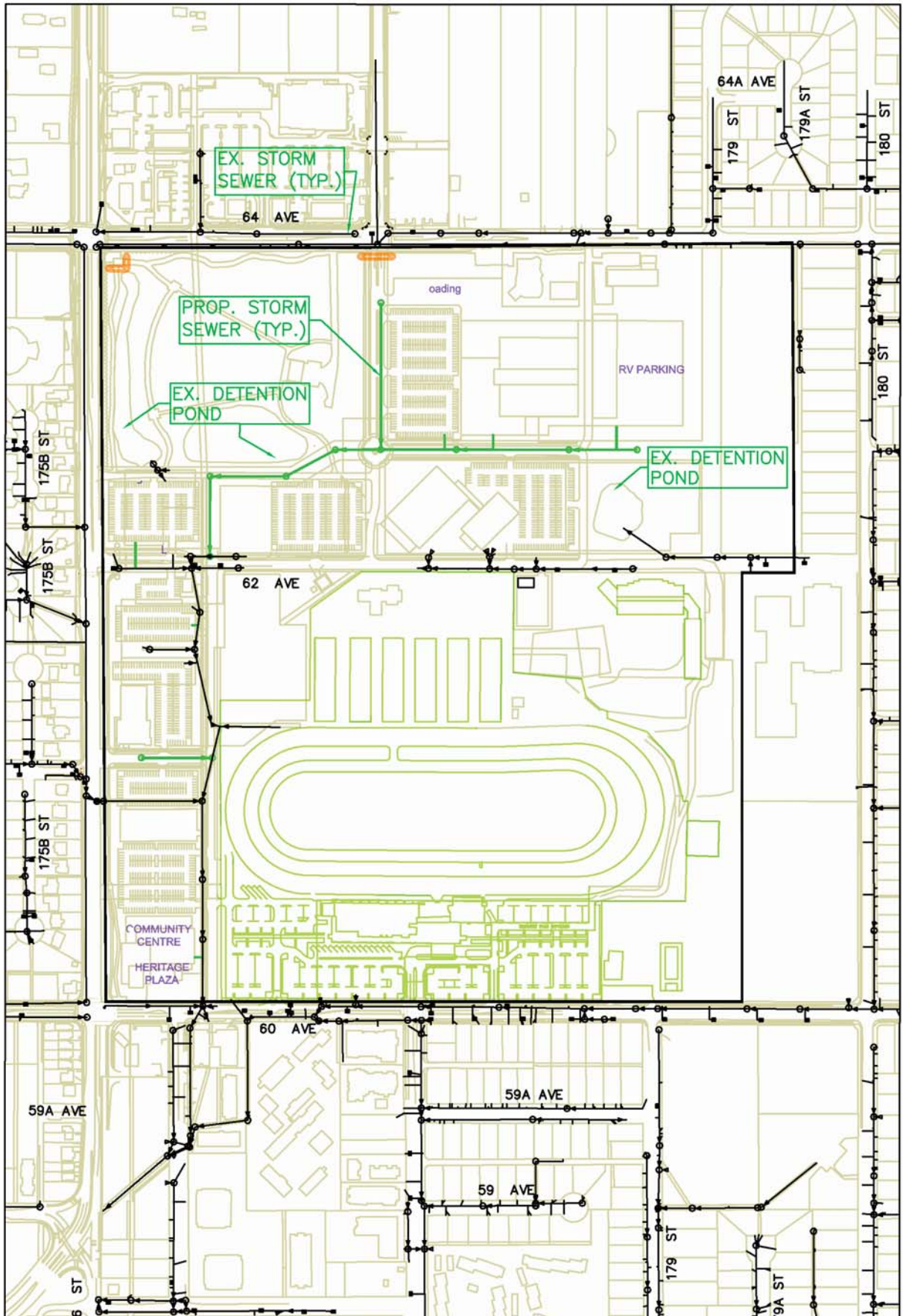


Figure 4. Storm Drainage: Phase One

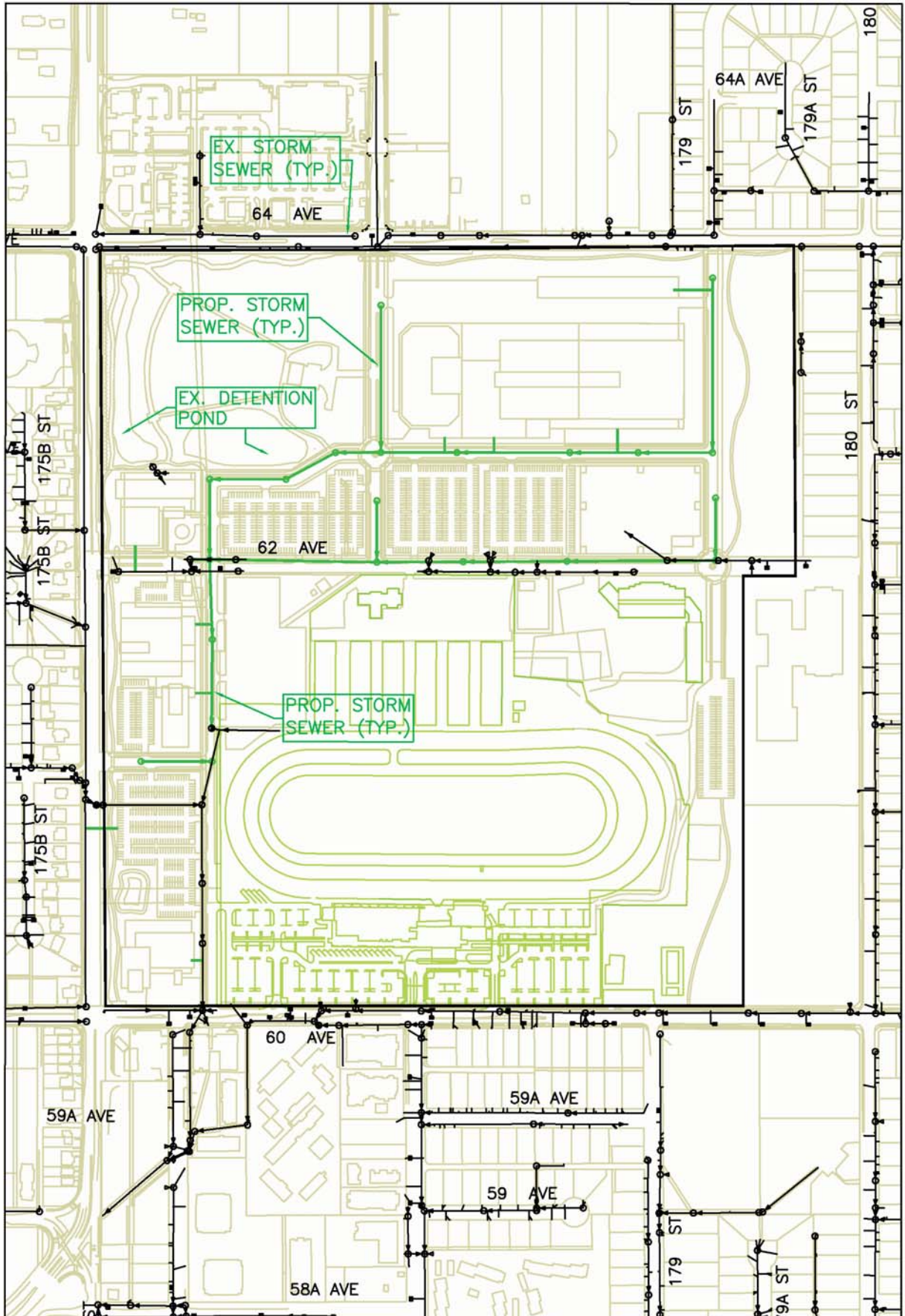


Figure 5. Storm Drainage: Full Build Out

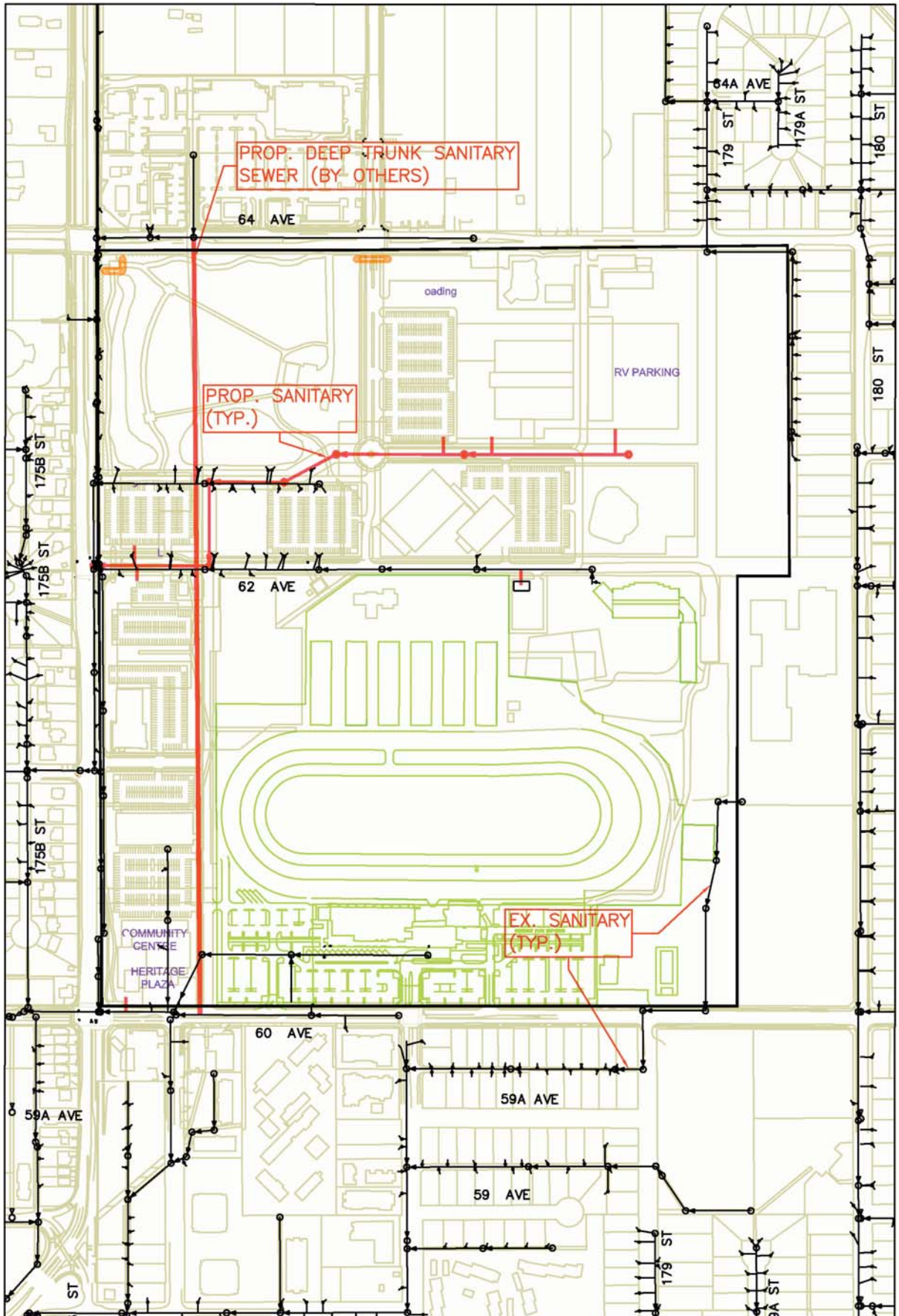


Figure 6. Sanitary Sewer: Phase One

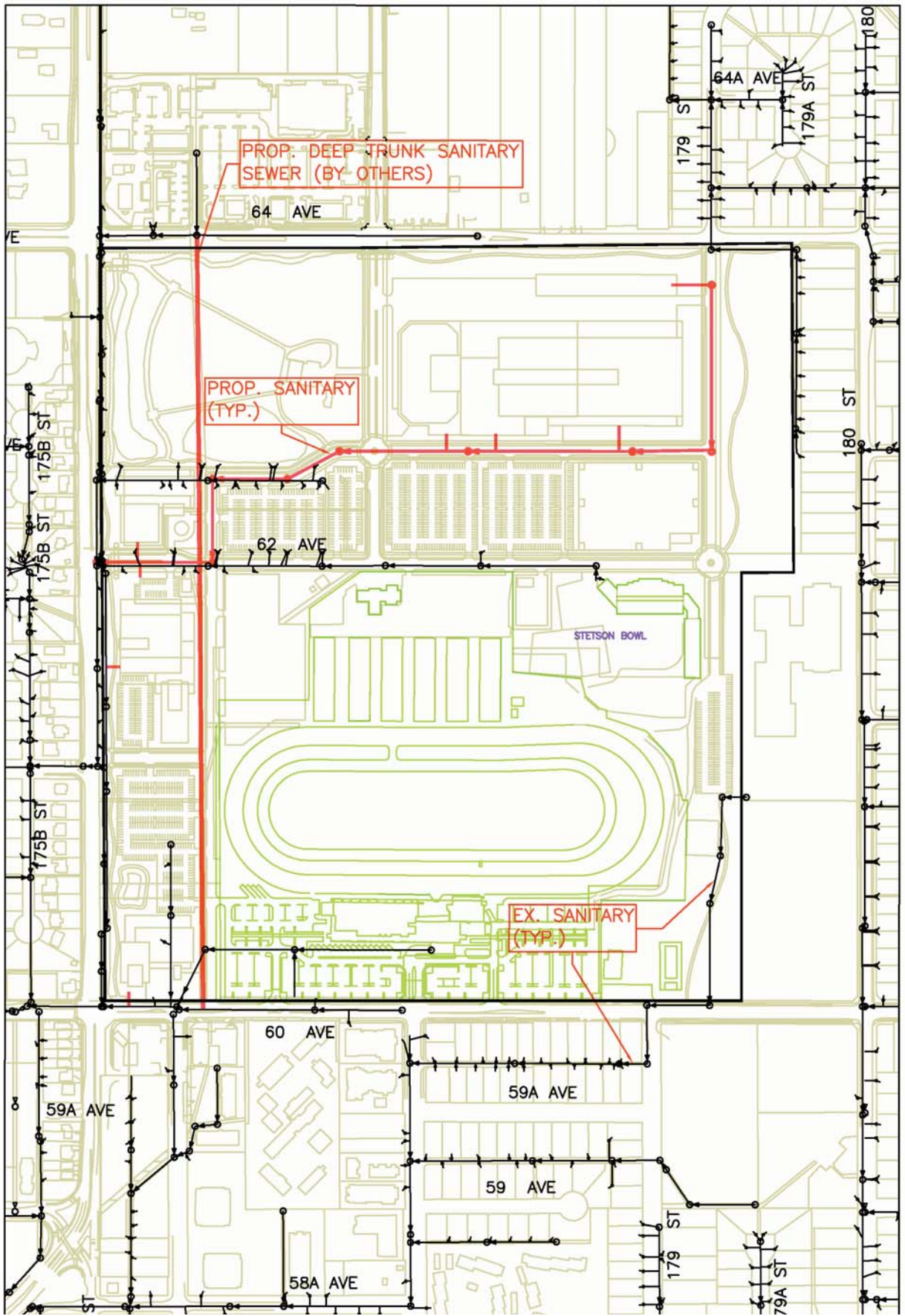


Figure 7. Sanitary Sewer: Full Build Out

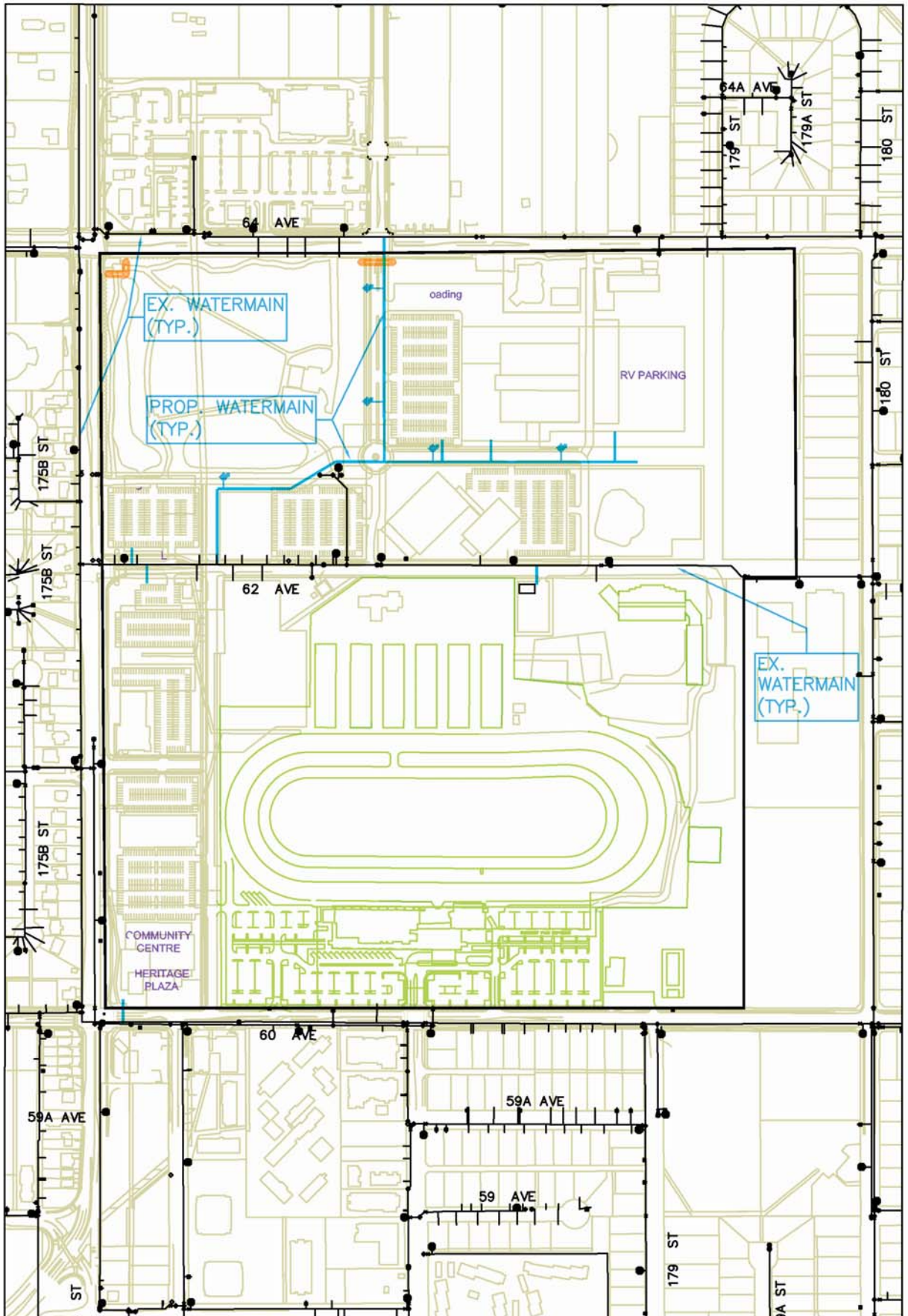


Figure 8. Waterworks: Phase One

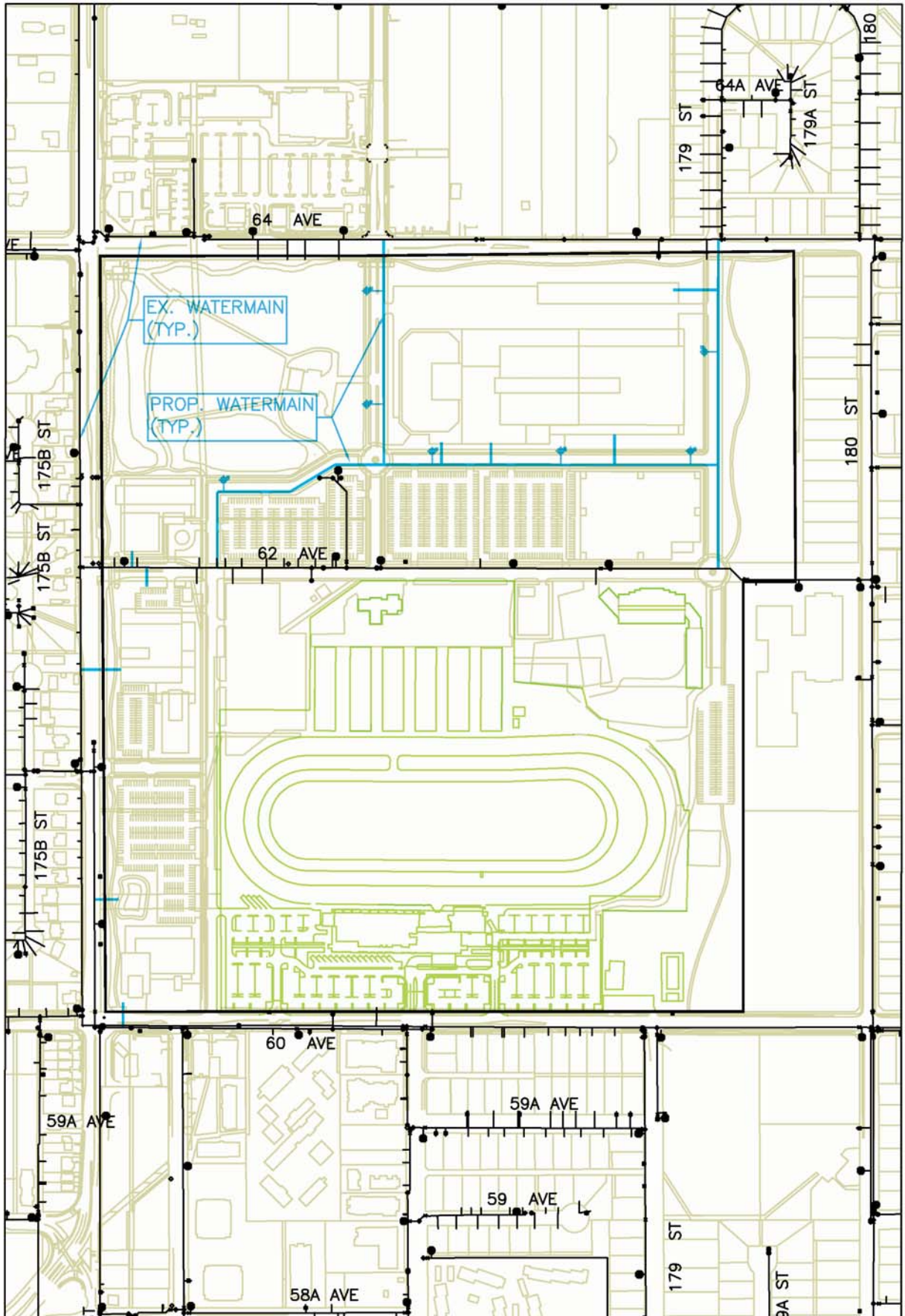


Figure 9. Waterworks : Full Build Out

G.2 Cloverdale Fairground Site Transportation Review

CLOVERDALE FAIRGROUND SITE

TRANSPORTATION STUDY

Prepared For: Downs / Archambault & Partners Architects and Planners
Prepared By: Bunt & Associates Engineering Ltd.
File: 4047.04
Date: June, 2007

Table of Contents

- 1.0 Introduction
- 2.0 Existing Conditions
- 3.0 Redevelopment Plans
- 4.0 Accessibility
- 5.0 Parking
- 6.0 Trip Generation and Distribution
- 7.0 Traffic Operations
- 8.0 Traffic Management
- 9.0 Summary

1.0 INTRODUCTION

Bunt & Associates Engineering Ltd has been retained by Downs / Archambault & Partners Architects and Planners, as part of the development team acting on behalf of the City of Surrey to provide traffic and transportation planning advice on the redevelopment plans for Cloverdale Fairgrounds, Cloverdale, Surrey.

Cloverdale Fairgrounds has a number of established recreational-based uses, including a racetrack (Fraser Downs) with casino, curling rink, hockey rink, community centre, amphitheatre, exhibition space and an outdoor area (Stetson Bowl).

A number of redevelopment plans have been considered for the Fairgrounds site and this report has focused on the current preferred options, which include a new Trade and Exhibition Centre, Arena, Hotel, multi-use recreational centre and new amenity building. It is expected that the development plans will be introduced in at least two phases.

This report has been produced to review the transportation requirements for the redevelopment plans at the Fairgrounds site, and it will have five broad objectives:

- Review the vehicular access arrangements and internal circulation;
- Ensure that the development layout is set out in the most sustainable manner;
- Determine the parking requirements for each land-use and review the opportunities for shared parking and charging;
- Assess the general operation of the road network; and,
- Review the general traffic management requirements for event days.

This report is not intended to be a Traffic Impact study as the redevelopment plans are still at the preliminary design stage. Its purpose will be to provide a broad indication of the likely transportation issues and opportunities that will arise with the redevelopment plans at the Cloverdale Fairgrounds site.

Once the redevelopment plans are more developed, and are submitted as part of a planning application / business plan, then a more detailed transportation study will be needed to assess in detail the issues and opportunities that will be identified in this report. Indeed, this report will form part of the scoping requirements for a future study and at the end of the report a list of recommendations for the future study will be set out.

The report has been set out in the following manner. Section 2 describes the existing conditions and establishes the general scope for the planned study

network. Section 3 outlines the redevelopment plans and the street network design and layout.

Section 4 assesses the sustainability of the development by foot, cycle and transit, and it will set out the planned transportation infrastructure and initiatives to support these modes.

Section 5 sets out the parking strategy, taking into consideration the peak demands of the different uses and the opportunities for shared parking, while it will also consider the practicalities of charging for parking.

In Section 6, the vehicle trip generation for each land use is predicted for a weekday evening period (6pm to 7pm); it will identify the practicalities of how events can function simultaneously; and it will set out the trip distribution on the study road network.

Section 7 assesses the operational performance of the study network for the existing traffic conditions and it will provide an indication of the development traffic turning movements at each of the site gates for a weekday period between 6pm and 7pm, when the combined background and development flows are at their highest.

In Section 8, the general principles of the traffic management plan for large events at the Spectator Arena are set out.

All in all, this Transportation Study will provide a broad understanding of the transportation requirements for the preferred redevelopment plans at Cloverdale Fairgrounds, and further, it will provide an important steer on how these plans should be developed / refined for the next stage of the planning process.

2.0 EXISTING CONDITIONS

This section describes the existing conditions, including the site layout, surrounding land uses, street network, transportation movements as well as any future proposals that may have an impact on the existing conditions. Reference will be made only in passing to pedestrian, cycling and transit infrastructure in this section, as these matters will be considered in detail at Section 4 in the context of the redevelopment plans.

2.1 SITE LAYOUT

Cloverdale Fairgrounds covers a 138-acre site. It is a well-established place for hosting large attendance events and has three main highways that border it: 64 Avenue to the north, Highway 15 (or 176 Street) to the west and 60 Avenue to the south. On the east side, it is bordered by playing fields / parkland and the Lord Tweedsmuir High School.

Land uses surrounding the Cloverdale Fairgrounds site comprise of residential to the west and east; mixture of residential / commercial to the south, including Cloverdale Main Street on 176/177B streets; and a recently completed commercial centre to the north.

Within the Fairgrounds site, there are a number existing uses and the main ones are summarized below:

- the Cloverdale Arena (350 seats) and senior centre in the southwest corner;
- outdoor Amphitheatre;
- Stetson Bowl;
- Fraser Downs Racetrack / Casino;
- the Curling Rink (on the west side); and,
- the Agriplex / Show Barn / Coverall buildings in the central part of the site;

Both the Stetson Bowl and Fraser Downs Racetrack are established large event venues. The Stetson Bowl hosts the Cloverdale Rodeo, which is held every year on the Victoria Day long weekend (in May), and it attracts between 70,000 and 80,000 visitors over a four-day period. Fraser Downs Racetrack hosts racing meetings that are staged regularly throughout the year and has a 3,000-seat grandstand.

Road infrastructure within the Cloverdale site is fairly limited and poorly defined. At present, there are two east-west routes to the north of the Racetrack site, which connect Highway 15 with the Stetson Arena and the Agriplex / Show Barn / Coverall buildings. Vehicular access between these roads can be made through

the car park that bounds them.

In a north-south direction there is 176A Street which connects up from 60 Avenue to a point just north of the Cloverdale Arena. At this point, there is a short road connection west to Highway 15, while to the north 176A Street merges into the overspill car park for the Fraser Downs Racetrack before connecting through to the east-west internal road that connects through to the Showbarn / Agriplex.

Finally, the City of Surrey an unregistered SRW through the Fraser Downs Racetrack car park that connects between with the traffic signal intersection at 177B Street / 60 Avenue and 176A Street.

2.2 ROAD NETWORK

The following paragraphs describe briefly the roads network that bounds the development site, including the existing access arrangements to the Cloverdale site.

Highway 15 (176 Street)

Highway 15 is a major arterial route on the western boundary of the site and comes under the responsibility of the Ministry of Transportation. It runs in a north-south direction, providing a strategic connection to the Fraser Highway and Highway 1 in the north and to Highway 10 and the US border in the south. In the vicinity of the site, it has recently been upgraded to a 4-lane highway with left-turn lanes at intersections. It has sidewalks on both sides of the road as well as cycle lanes and bus lay-bys.

It has three existing access points with the Fairgrounds site (Gates 5, 6 and 7). Of these, Gate 6 is traffic signal controlled, while the other two have minor stop controls at the entry point to Highway 15. In addition, Highway 15 has intersections with 64 and 60 Avenues, and both operate under traffic signal control with controlled pedestrian crosswalks on all approaches.

64 Avenue

This is a major arterial road on the northern boundary of the site. It runs in east-west direction, providing connections to the Fraser Highway and Highway 1 in the east and to King George Highway and Highway 91 in the west.

In the vicinity of the site, 64 Avenue west of 177B Street has a five-lane cross-section (two through lanes in each direction as well as a left-turn lane at intersections), while to the east it narrows to a two-lane cross-section. The City of Surrey's 5 to 10-year Transportation Plan identifies that the two-lane section of 64 Avenue in the vicinity of the site will be upgraded to the same status as the section west of 177B Street.

64 Avenue has one existing access to the development site (Gate 8) and it is located between 177B Street and 180 Street. It operates with a minor stop control on the approach to 64th, while there is a left-turn lane on the main road to accommodate vehicles entering.

60 Avenue

This is an arterial road with a 3-lane cross-section (including left-turn lane provisions at most intersections). It runs in an east-west direction, but has no through east-west connection west of 168 Street, while to the east it connects through to the Langley Bypass / Fraser Highway.

It provides access to the Fraser Downs Racetrack / Casino, where there are three intersections (Gates 1, 2 and 3), including the traffic signal intersection at 177B Street, which has controlled pedestrian crosswalk facilities.

In the Ward Consulting Traffic Impact Study to support the Fraserdowns Casino planning application, it was highlighted that 60 Avenue would reach its capacity in 2014, and given this, it would need to be increased to two travel lanes per direction.

2.3 STUDY NETWORK AND TRAFFIC FLOWS

Given that the redevelopments plans at Cloverdale Fairgrounds are still at the preliminary stage of the design process, the study network for the proposals has focused on the immediate environs. It will cover the planned vehicular access points at Highway 15, 64 Avenue and 60 Avenue as well as the existing intersections at Highway 15 / 60 Avenue, Highway 15 / 64 Avenue and 60 Avenue / 177B Street.

Traffic flows were obtained from an April 1999 survey and these were compared with those derived from the EMME/2 for the year 2006. This comparison highlighted that traffic flows on the surrounding roads had an average growth level at 13.4% between 1999 and 2006, or 1.8% when compounded annually.

As well, the roads in the study area displayed differential growth rates and these were consistent with the capacity alterations to infrastructure in the study area. For example, 64 Avenue demonstrated 24% growth, or 3% annually compounded, which is consistent with the widening of 64 Avenue.

Therefore given this, the EMME / 2 2006 traffic volumes were adopted for the study and these flows were factored up by a further two years using traffic growth at 2% per year to 2008. These traffic projections are to provide a general indication on the operation of the adjacent road network and this is presented in Section 7 of the report.

3.0 REDEVELOPMENT PLANS

3.1 INTRODUCTION

The City of Surrey has been considering different redevelopment plans for the Cloverdale Fairgrounds site in order to make better utilization of the land; enhance the existing facilities, including the community-orientated facilities; and more generally providing a catalyst to improve the local economy by stimulating new business and in particular on Cloverdale ‘main street’.

In this section a brief description of the development content is provided together with the planned internal street layout.

3.2 DEVELOPMENT CONTENT

Cloverdale Fairgrounds is planned to be redevelopment in different phases. In this report two phases have been identified; however, there could be more as the plans are further developed. In Table 3.1, the proposed redevelopment land uses are summarized.

Table 3.1: Potential Redevelopment Uses

Facility	Phase 1	Final Build-Out
Addition		
Trade & Exhibition Centre and / or Spectator Arena	T & E Centre 150,000 sq.ft. (2,500 attendees)	Scenario A T & E Centre Expansion of 150,000 – 350,000 sq.ft. (8,000 attendees) Scenario B T & E Centre expansion of 150,000 sq.ft + 5,500 spectator arena
Surrey Tourism Kiosk	1,500 sq. ft	
Community Recreation Centre	80,000 sq. ft.	
Amenity Building: 2 Ice sheet arena or Swimming Pool + amenity rink		52,000sq.ft or 68,000 sq.ft.
Hotel	-	250 rooms, 200,000 sq.ft.
Subtraction		
Agriplex	-	23,000 sq. ft.
Show Barn	-	18,000 sq. ft.
Horseshoe Pitch Facility	-	11,500 sq. ft.

Attendee numbers used for the Trade & Exhibition Centre are very preliminary and have been based on the expected type of events that could be attracted to Cloverdale given its location and where people could be drawn from, i.e. most

likely to have a localized draw from the Fraser Valley and Surrey. These figures may reduce or increase once the business plan is developed; however, for the purposes of this report they will provide a reasonable estimate for traffic generation purposes.

At final build-out, there are two potential scenarios for the event-based facilities: Scenario A would include the Trade and Exhibition Centre expanding up to 350,000 square feet GFA or 8,000 attendees, while Scenario B would include a 5,500 Spectator Arena and a 150,000 square feet GFA expansion of the Trade and Exhibition Centre.

Both these scenarios will entail the relocation of existing amenities, such as the skateboard park and the basketball courts, as well as the provision of supporting buildings such as a structured parking facility and new internal roadways with connections to the external road network.

3.3 SITE CONNECTIONS AND STREET NETWORK

One of the key objectives in developing the internal street system has been to create a permeable layout that maximizes the choice of routes and allows for additional road capacity at peak times. The planned approach is described in the following paragraphs and diagrams showing the site connections and streets can be found in the main report.

On the northern boundary at 64 Avenue, it is planned to provide a southern connection to the existing traffic signal intersection (Gate 9), which currently serves the commercial centre to the north. To the east of this intersection, there is a minor access and this will be retained to help to supplement capacity for vehicles entering / exiting onto 64 Avenue when there is an event at the Spectator Arena.

On the western boundary of the site, there is an existing traffic signal control intersection at Highway 15 / Gate 6, which has a left-turn storage lane and controlled pedestrian crosswalks. To the south of it, there is a minor stop control intersection at Gate 5. Within the development site, 176A Street runs parallel with Highway 15 and it is planned to move it eastward by approximately 40 metres to form 176B Street.

On the southern boundary of the site, the 176B / 60 Avenue intersection is planned to be a pedestrian actuated signal, and given the constraints (proximity to neighbouring intersections). Also for this reason, it may also need to have restricted movements and any design will have to be agreed with the Ministry of Transportation given its proximity to Highway 15.

Any restricted movements at the 176B / 60 Avenue intersection could be accommodated at the two accesses for the Casino from 60 Avenue, however

this will require the SRW to be registered through the Race Track / Casino car park and this should form part of the Fairgrounds redevelopment access strategy.

Should the Spectator Arena go ahead, then there may also be the need for an additional access on to 60 Avenue, which potential could go through the existing car park for the Stetson Bowl and continue southward through tennis courts to 60 Avenue (generally along the 179A Street alignment). This option would need to be fully evaluated in terms of topography, loss of amenity and environmental impacts, and it could be case that it is only operational for large events. Its requirement is discussed further in Section 7.

On the east site, there is no existing vehicular access to 180 Street from the Fairgrounds site and constructing an access along the alignment of 62 Avenue (the most feasible location) will be challenging given the elevation difference. However, it will be important to investigate the feasibility of this access to improve the overall permeability of the site. It will need to be assessed in the context of its impact on urban design, being fully accessible to the mobility impaired and the effects of additional traffic movements on 180 Street, which is a collector road.

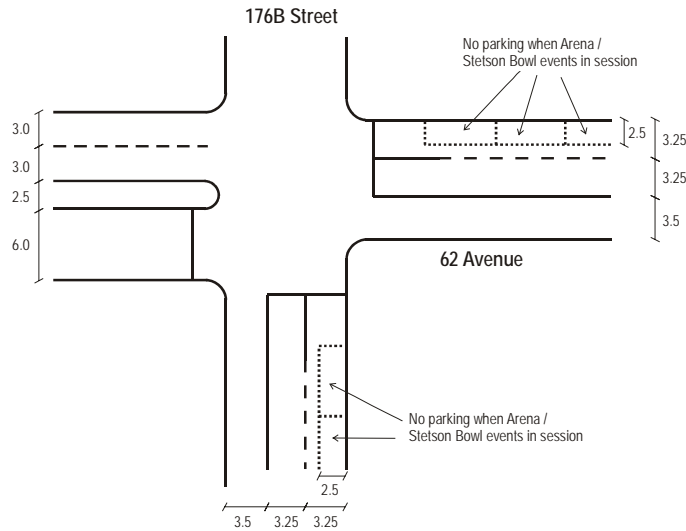
On the northern part of the development site, a permeable road network is planned. In particular, there will be three north-south roads with two connecting through to 64 Avenue and two, possibly three, connecting through to 60 Avenue. In an east-west direction, two routes are planned with one connecting through to Highway 15 at Gate 6.

Within this matrix of routes will be the main parking areas, which will allow numerous entry and exit points to / from each car park.

There are two types of streets planned within the Fairgrounds plans (see Section D3.5 of the main document): the first is Boulevards which are planned on the main west and north entry points to the site and these will be 14.5 metres wide (two 6-metre lane roadways and a 2.5-metre median). The second type will be a standard street cross-section at 10-metres with two travel lanes, one at 3.5 metres and the other at 3.25 metres, plus a 3.25-metre parking lane.

These street sections will provide a flexible design that can cater for event and non-event scenarios. In particular, during event scenarios (Arena, Stetson Bowl), on-street parking within the internal street network could be restricted, thus allowing extra road capacity on the street system (see Figure 3.1), while the Boulevards streets with 6-metres roadways per direction would be capable of accommodating two lanes of traffic per direction.

Figure 3.1: Indicative Internal Street Layout (Not to Scale)



All internal streets will have at least one sidewalk with some of the busier pedestrian areas having sidewalks on both sides especially in the vicinity of the Arena / Trade and Exhibition Centre buildings. Generally sidewalks will have ample width, with cross-sections of 2 to 3 metres planned on all internal streets.

Internal intersections will be either stop control or roundabout control, and as will be mentioned in Section 8, traffic flows at these intersections will be manually managed for events at the Spectator Arena.

4.0 ACCESSIBILITY

4.1 INTRODUCTION

At Regional and City level, planning policies advise that developments should be designed in the most sustainable manner to encourage walking, cycling and transit use as the primary forms of travel. This policy approach is consistent with the City of Surrey planning guidance and the GVRD's Liveable Region Strategic Plan (1996).

A sustainable development can deliver a number of important benefits to a local area:

- create a more vibrant community where walking becomes the primary form of travel for short journeys;
- make cycling attractive and safe, and in particular for short to medium length journeys;
- reinforce transit is an attractive alternative to the automobile for medium to longer length journeys;
- reduce parking to levels that are practical and desirable; and,
- minimize the number and length of private automobile trips.

This section will examine the sustainability of the redevelopment plans for Cloverdale Fairgrounds, and in particular it will assess its accessibility by walking, cycling and transit. It will consider the potential for participation in each of these forms of travel, taking into consideration influences such as travel distances, street design, transportation infrastructure as well as any initiatives which are being considered as part of the redevelopment plans.

4.2 WALKING

Walking is a realistic form of travel for most people, especially over short distances, i.e. up to 2 kilometres or a 40-minute walk time. The distance that a person is willing to walk is, to a large extent, dependent on the purpose of the journey, although factors such as urban form, traffic, safety, personal fitness, auto ownership, parking availability, etc., are all influential to some degree.

Guidance on the distances that people are willing to walk to different land use destinations are set out in Table 4.1. This table focuses on land uses that can reasonably be accessed by walking from within and outside the Cloverdale Fairgrounds. Pedestrian connections to these land uses can be seen in the main document.

Table 4.1: Walking Thresholds

Facility	Threshold Distances	Residential Areas / uses within these thresholds
Bus Transit	400m ^a	All of bus stops on Highway 15 are within walking distance of the planned buildings, while the bus stops on 60 Avenue provide penetration to the southern part of the site.
Employment from the Arena, exhibition centre, Hotel, rinks, etc.	2000m ^b	Residential areas extending to 57 Avenue in the south, 172 nd Street in the west and 188 Street in the east.
Leisure & community facilities	600-1200m ^b	Residential areas extending to 56 Avenue in the south, 68 Avenue in the north, 168 Street in the west and 181A Street in the east.

Sources: ^aTransLink; ^bInstitute of Highways and Transportation (UK)

There are paved pedestrian sidewalks on 60 Avenue, Highway 15 (176 Street) and 64 Avenue surrounding the site. These are connected to the signal controlled crosswalks at the following intersections: 64 Avenue at 177B and Highway 15, Highway 15 at Gate 6 and on 60 Avenue at Highway 15 and 177B Street / Gate 2.

Fundamental to the redevelopment plans is having a safe and direct pedestrian crosswalk at 60 Avenue / 176B Street, connecting Cloverdale 'Main Street' to the Community / Seniors Centre and Amenity building as well as to the other uses planned.

Given this, it is proposed to introduce a pedestrian actuated signal at this intersection that would be coordinated with the existing traffic signal at Highway 15 / 60 Avenue. Through this coordination, the pedestrian signal would be subservant to the traffic signal at 60 Avenue / Highway 15 and hence delays and queues at the main intersection would be minimized. Overall this arrangement provides a balanced arrangement between meeting the needs of pedestrians and auto users (see Section 7 for more details).

Pedestrian connections to 180 Street should be investigated as part of the feasibility study in providing a vehicular connection.

More generally, it is planned to provide permeability through the development site, although the block area that accommodates the Fraser Downs racetrack diminishes the possibilities somewhat. In the north part of the site, the new road infrastructure will increase permeability in both an east-west and north-south direction, while the new road alignment on 176B Street on the western boundary of the racetrack will provide a more pleasant route for north-south movements, as an alternative to using Highway 15.

Crosswalks will be provided on approaches to all the intersections and their

design will follow best practice in regard to pavement markings, curb layout and pavement treatments.

Traffic calming is an essential component in creating a safe and convivial environment for people to walk. It should form an integral part of the internal street design, especially on 176B Street where the community-orientated facilities are planned. In particular, measures could be introduced such as raised intersections and crosswalks, corner bulges, reduced turning radii, etc., and more generally, it should form an integral part of the street design, including having lower street design standards so as to reduce vehicle speeds.

4.3 CYCLING

A person's willingness to cycle is based on a number of lifestyle factors, including health benefits, cost savings (automobile use and parking) and convenience. Infrastructure also plays an important role through the safety of routes, gradients, cycle storage facilities, etc.

Cycling is a realistic transportation option for most people over short to medium distances, i.e. up to 8 kilometres or 30 / 35 minutes cycle. This threshold would indicate that the whole of Cloverdale, parts of Langley, Clayton, Willowbrook, Woodward's Hill, Sullivan and parts of Newton are all within reasonable cycling distance of the Fairgrounds site.

Within the Cloverdale site, the proposed finer-grained street network provides opportunities for cyclists to avoid the busier traffic routes. Outside Cloverdale, however, cyclists need to rely upon 64 Avenue, 184 Street and 192 Street to gain access to the site from the surrounding communities.

The planned street network within the Fairground site will provide cyclists with new route options that are comfortable and safe to use. A north-south route would be available east of Highway 15 that will allow cyclists to travel from 176A Street in the south to 177B Street in the north on a relatively low-travelled road. Similarly, an east-west route option could be provided through the site potentially connecting 62 Avenue at Highway 15 to 180 Street, where switchbacks may be required to get from the site's elevation to 180 Street given the topography.

In addition, cycle lanes have been introduced on Highway 15, providing cyclists with dedicated space on this busy arterial road.

An integral to the redevelopment plans will be an adequate supply of cycle storage facilities for each new building. These facilities will serve both the needs of visitors, i.e. positioned in visible locations and close to entrances, while for employees they will be in secure weather-protected locations.

4.4 TRANSIT

A person's willingness to use bus transit is based on a number of general factors, including: eligibility to drive, cost, convenience, relative journey times with other modes, personal choice, etc. Transit is a practical proposition for distances of 4-kilometres or more.

There are three bus routes that currently serve Cloverdale Fairgrounds (#320, #340 and #395). These routes are shown at **Exhibit 1a and 1b**, and in Table 4.2 the frequency and times of their operation are presented for a weekday, Saturday and Sunday.

Table 4.2: Bus Transit Routes Serving Cloverdale Fairgrounds

Details		Weekday PM		Saturday		Sunday	
#	Route	Freq. (min)	Last	Freq. (min)	Last	Freq. (min)	Last
320	Surrey Central Station (SCS)	60	12:30 AM	30 Midday 60 Evening	12:30 AM WB 2:30 AM EB	30 Midday 60 Evening	11:25 PM WB / 1:20 AM EB
340	Newton Exchange / Scottsdale / 22 nd St. Station	60	7:00 PM	60	6:40 PM	No service	N/A
395	King George Station / Westbrook	30	7:20 PM	No service	n/a	No service	n/a

There are two routes that connect Cloverdale Fairgrounds with the SkyTrain: Route #395 with a 30-minute peak service on a weekday from King George Station and Route #320 with a 60-minute peak service from Surrey Central (over the same period). Of the three routes, only Route #320 has an evening service, i.e. it goes beyond 7:20pm, and a weekend service.

Therefore although the Fairgrounds site is reasonably well served during weekday morning and afternoon periods, there is limited service outside these periods. This is particularly a concern for events, as these mainly occur in the evening and at weekends.

Therefore, improvements to bus services will be required if transit is to play an important role in reducing auto trips, while making the Cloverdale Fairgrounds accessible to people without access to a car. Some improvements can probably be supported with the general increase in the day-to-day activities on the site (i.e. other than the event venues) with the redevelopment plans.

For larger events, it is recommended that consideration be given to a dedicated transit service with the SkyTrain Station at Surrey Central (journey time approximately 20-minutes). Such a service would need to be evaluated in the context of the type of events / exhibitions that are planned and more specifically on the catchment area and the demographics of the attendees. So once information is available, which should be contained in the business plan, then a full evaluation of the potential for such a service would be made.

As part of the evaluation for such a transit service, it will also be important to consider incentives for visitors / staff to use transit. This could be in the form of subsidised or free service with the SkyTrain Station for anyone who has a valid transit ticket / pass. Funding for the service could come from part of the parking revenue for the Fairgrounds site, should a charging regime be adopted. Another benefit of charging for parking, as will be explained further in the next section, is that it deals with the inequitable position of subsidizing drivers (which occurs with free parking).

Within the planned internal street network at the Fairgrounds site, there is the opportunity to loop a bus service into the site via the main western access on Highway 15 and out via the main northern access on 64 Avenue (or the reverse). Further, there is sufficient width on the internal boulevards (6-metre roadway on each side of the median) or on the internal streets (10-metre roadway) to accommodate waiting buses.

Consultation will be required with TransLink in the development of a transit strategy for the Fairgrounds site.

4.5 STREETCAR

In the future, it has been suggested that a tourist streetcar (originating from Highway 10) could penetrate through the Fairgrounds site from 176A Street and travel up 176B Street.

However, there are significant design challenges that need to be overcome for this to become a practical proposition. In the context of the Fairgrounds site there is the challenge of crossing 60 Avenue from 176A to 176B Street. In particular, 60 Avenue is planned to have four traffic lanes, while 176B Street will be located 40 metres (circa) east of 176A Street and both of these physical features will make it difficult to achieve the safety and geometric requirements for accommodating the streetcar. In fact, it may be difficult for the streetcar to operate north of 60 Avenue. This is a detailed matter that goes beyond the scope of this report and will need to be addressed as part of the overall design for the streetcar route.

It is our understanding that the streetcar would operate on a single track, and hence the vehicle movements would be both directions on this track (similar to

the Granville Island streetcar.) Should the streetcar continue north of 60 Avenue, it is suggested that the track should be placed in the centre of the road, with the streetcar vehicle having an overall travelling width of 3.0 to 3.2 metres.

When the streetcar operates, the single lane parking on 176B Street would be removed, leaving two travel lanes of around 3.4 to 3.5 metres either side of the track.

5.0 PARKING

5.1 INTRODUCTION

Parking provision has to find the right balance between encouraging sustainable transportation choices, while meeting basic demands for the development to function successfully.

This section will set out the parking rational for the development plans using survey data and research material. Consideration will also be given to the influences on demand through parking charges, while opportunities will be investigated for shared parking.

5.2 PARKING REQUIREMENTS

As set out in Section 3, there are two scenarios at the final build-out: Scenario A is for a 500,000 sq. feet GFA Trade & Exhibition Centre and Scenario B is for a 5,500 seat Arena and 300,000 sq feet GFA Trade & Exhibition Centre.

Parking requirements for these scenarios are presented in Tables 5.1 and 5.2, respectively, together with the other planned uses.

Table 5.1: Scenario A without Arena - Parking Requirements

Land use	Source	Parking Rate	Size/ Units	Phase 1	Build-Out
New Uses					
Trade & Exhibition Centre	Based on the traffic generation numbers in Section 6	0.29 Per attendee. Note only vehicles that park are included	2500 attendees Phase 1/ 8000 attendees at build-out	730	2340
Hotel	ITE 310	0.91 per room	250 rooms	-	230
Community Recreation Centre	In - House	3.0 per 1000 sq.ft.	80,000 sq.ft.	240	240
Tourism Kiosk	In - House	20 per 1,000 sq.ft.	1,500 sq.ft.	30	30
Ice / Curling Rink* or Indoor Pool	In - House	1.75 per 1,000 sq.ft.	68,400 sq.ft.	-	120
	In - House	2.3 per 1,000 sq.ft.	52,000 sq. ft.	-	120

* Two ice sheet

Table 5.2: Scenario B with Arena - Parking Requirements

Land use	Source	Parking Rate	Size/ Units	Phase 1	Build-Out
New Uses					
Trade & Exhibition Centre	Based on the traffic generation numbers in Section 6	0.29 per attendee	2500 attendees Phase 1 5000 attendees at build-out	730	1460
5,500 seat arena	Ditto	0.48 per attendee	5500 attendees	-	2670
Hotel	ITE 310	0.91 per room	250 rooms	-	230
Community Recreation Centre	In-house	3.00 per 1,000 sq.ft.	80,000 sq.ft.	240	240
Tourism Kiosk	In - House	20 per 1,000 sq.ft.	1,500 sq.ft.	30	30
Ice / Curling Rink* or Indoor Pool	In - House	1.75 per 1,000 sq.ft.	68,400 sq.ft.	-	120
	In - House	2.3 per 1,000 sq.ft.	52,000 sq.ft.	-	120

* Two ice sheet

Table 5.3 provides an overall summary of the requirements for Phase 1 and the final build-out based on Scenarios A and B.

Table 5.3: summarizes the parking requirements

Land use	Phase 1	Build-out
Scenario A: 500,000 square feet of Trade & Exhibition Centre floor space	1,000	2,740
Scenario B: Arena & 300,000 square feet Trade & Exhibition Centre	1,000	4,530

It shows for Scenario B that an additional 1,800 parking spaces would be required compared to Scenario A. However, this will only be true if all facilities are being operated at maximum capacity and at any one time, and moreover, it may not be desirable from a traffic management perspective.

In reality, events in these buildings are likely to be coordinated to minimize such situations for logistical and traffic management reasons, as well as avoiding the need to construct parking that is seldom used. On the conservative assumption that activities in both buildings happen concurrently and that the Arena is operating at full capacity and the Trade & Conference Centre is at no more than 30% capacity, then the parking required would be proportional to a 70% reduction in Trade & Exhibition Centre requirement, i.e. a reduction of 1,000 parking stalls. Thus for this particular scenario, 3,500 spaces would be required.

Summing up, the parking required for Phase 1 is predicted to be around 730 parking stalls, and these stalls would be accommodated without the need for structured parking facilities. At final build out, the parking requirement for events is estimated at between 2,300 to 3,500 stalls depending on what scenario is progressed and on the assumption that the Arena and T & E Centre are not operating simultaneously at full capacity.

Once a business plan is developed, these figures will be refined to take account of the catchments for each event; any synergies between the buildings; the socio-demographics of the attendees; and the type and coordination of events.

5.3 PARKING LAYOUT

The main parking pool for the events will be located between the Trade & Exhibition Centre and the Racetrack. In Phase 1, the Agriplex / Showbarn will be retained and hence will take up the middle section of the future parking areas. At final build-out, the parking facilities will be located between the Trade & Exhibition Centre and the Racetrack, i.e. between the two east-west internal roads.

A structured parking facility could be located at the eastern most part of the parking area and a second one could potentially be placed to the west of the Spectator Arena (east of the amphitheatre). The rest of the facilities, including the hotel, community centre, swimming pool, curling rink, etc. will have their own parking provision adjacent to the buildings that they serve.

5.4 PARKING CHARGES

Parking charges should be considered for events at the Trade and Exhibition Centre and Arena. Indeed, charging for parking is likely to be integral part of development plans, as the cost of providing parking (both in land and construction) needs to be recovered. If parking is not charged, then, in essence, drivers will be unfairly subsidized and people who arrive by other means will be potentially penalized, for example, through higher ticket prices.

Charging for parking has several positive benefits on travel behaviour. First, it encourages people to car-pool, which in turn results in a higher average occupancy of vehicles. Second, it encourages staff, in particular, to arrive by walking and cycling, especially as many will be from the local area given the nature of the employment at such facilities. Third, parking charges can provide a revenue stream to support a transit service from the SkyTrain Station as mentioned in Section 4. In sum, charging for parking can reduce both the number of vehicles generated at an event and the parking spaces required to accommodate them.

However, it is important that the charging regime does not result in parking in the surrounding residential areas and therefore it needs to be balanced with its wider

impacts. In fact, it may be the case that a parking management plan is needed for the surrounding residential areas, including on 180 Street, for event days. The cost of this plan would need to be funded through the parking revenues.

Finally, it will be important to monitor parking on the surrounding residential areas during large events, with or without charging for parking, to ensure that there is minimal impact to the residents.

5.5 OPPORTUNITIES FOR SHARED PARKING

Parking consumes a lot of space and is costly to provide in structured facilities. Therefore, it is important that all opportunities are explored to identify locations where existing parking areas are under utilized during events at the Spectator Arena and the Trade and Exhibition Centre. In the vicinity of the site, four opportunities have been explored and these are described below.

The first location is the commercial centre on the north side of 64 Avenue, which is a mixture retail and restaurant uses (including Price Smart Foods). However, there are two main issues with using this parking: (a) commercial operators are usually protective of their parking; and (b) the demands at the Commercial Centre are still likely to be high in the evening and at weekends given the restaurant component within the site, while the grocery store is still likely to be busy during these periods.

The next location is the Lord Tweedsmuir High School, which could potentially be used for staff parking during large events. Staff parking is relatively easy to manage compared to attendees, while their traffic demands are more spread out, as some will arrive well before the event, while others will be closer to the start time (depending on their duties). It is estimated that the school car park could provide around 200 to 250 stalls for evening and Saturday events during the school year, and also for daytime events outside the school year. Such an arrangement would provide a valuable revenue stream for the school, should it wish to enter into an arrangement with the operator. Indeed, the revenue generation as well as the fact that the spaces are being used by staff may help to appease the concerns of local residents.

Located to the south of the Stetson Bowl, there are around 160 parking stalls which could be used on non-event days at the Bowl.

Lastly, Fraser Downs Racetrack has a lease agreement for up to 300 overspill parking stalls that are located to the west of the Horse Barns. These spaces, apparently, are very rarely used and hence could provide an opportunity for use during large events. This would need to be negotiated with the Racetrack operator. Such an arrangement would be prudent for both parties, especially given their current level of use. These spaces could be available for daytime, evening and weekend events.

All told, there is the potential to secure 660 to 710 parking stalls to support the parking requirement for large events. As well as the benefits of utilizing the existing parking areas, these spaces will help to spread the traffic demands during large events. It is therefore recommended that the future operator(s) for event-based uses explore these options and where necessary seek the necessary agreements to minimize the amount of new parking construction in terms of land and cost.

6.0 TRIP GENERATION AND DISTRIBUTION

6.1 INTRODUCTION

The land uses discussed in Section 3 show the preferred options, including the removal of existing facilities on the Fairgrounds site. These changes will generally increase traffic levels on the site, but there will be some reductions from existing conditions with the removal of uses.

This assessment recognizes that at final build-out there will be two potential scenarios for event-based facilities. In Scenario A, the Trade and Exhibition Centre would be expanded up to 350,000 square feet GFA or 8,000 attendees, while in Scenario B, a 5,500 Spectator Arena and 150,000 square feet GFA expansion of the Trade and Exhibition Centre would be introduced.

The trip generation for the proposed uses has focused on a weekday evening peak period at 6pm to 7pm as this represents the highest combined traffic period for both the planned land uses and the background traffic levels. Also, the overall two-way traffic flows generated for the land uses for this period will be in the same order of magnitude for the period at the end of an event(s) or at weekend events.

6.2 TRIP GENERATION FOR COMMUNITY, RECREATIONAL, HOTEL AND KIOSK

Vehicle Trip rates for the Community Recreation Centre, Additional Amenity Building were obtained from the ITE Trip Generation Handbook, while vehicle trips for the Kiosk have been assumed as part of the generation for the other uses.

6.3 TRIP GENERATION FOR THE SPECTATOR ARENA

Trip generation for the Spectator Arena has been based the maximum projected number of attendees to an event, which is 5,500 people, while around 400 employees are expected to be employed during an event. These figures have been broken down by modal split and vehicle occupancy in the following paragraphs.

Modal split has been based on observed operational characteristics of existing large venues and entertainment land use projects such as the City of Vancouver Downtown Entertainment District; the Thunderbird multiplex theatre complex in Langley; and the Ottawa Palladium Arena. These venues typically show the following breakdown:

Person trips made by automobiles requiring parking:	65-80%
Person trips made by transit:	10-25%
Person trips made by drop-off/pick-up (no parking):	5%
Pedestrian trips:	<u>5%</u>
	100%

Given the limited transit access, population density and supporting uses in the vicinity of the Cloverdale site, it is predicted that the proportion of person trips made by automobile (that would require parking) will be at the upper end of the scale, i.e. 80%. The remainder of 20% trips would be made up of transit, walking and pick and drop by automobile. For staff, it has been assumed that 80% would arrive by automobile whether parking a vehicle or as a pick up / drop off.

These events also show that automobile trips have an average occupancy in the range of 2.3 to 2.5 persons per vehicle. For the purposes of this analysis, it has been assumed that the average vehicle occupancy would be 2.4 persons per vehicle. For staff, vehicle occupancy is predicted to be much lower at 1.1.

Peak traffic conditions for the Arena will be before the start time and after the finish time. Evening events typically start at 6:30 to 8pm and end around at 9:30 – 10:30 pm. Afternoon events during weekends are expected to start between 11 to 3pm and end at between 2 and 6pm. Typically for event it would be expected that 80% of the attendees would arrive 1 hour prior to the event starting, with 15% arriving over 1 hour before the event and 5% after the start time. After an event, a slightly higher proportion at 90% would leave within 1-hour of finishing, while 5% leave before the end and 5% more than 1 hour after.

Staff would typically arrive outside the peak attendee arrival periods, and it has been assumed, conservatively, that 20% would arrive 1-hour before and 50% would leave 1-hour after.

Based on the previous assumptions, a breakdown of the Arena’s vehicle trip generation is summarized in Table 6.1.

Table 6.1: Arena Trip Generation Predictions (6pm to 7pm)

	Spectators	Employees
Peak Daily Occupancy at any one time	5500	400
Peak 1 hour before start	80%	20%
Peak 1 hour after finish	90%	50%
Modal Split	85%	80%
Vehicle Occupancy	2.4	1.1
Peak 1-hour Vehicles before start	1558	58
Peak 1-hour Vehicles after finish	1650	36

As is evident, the Arena is expected to generate somewhere between 1,600 to 1,700 vehicle trips during the peak event periods. Of these trips, 95% would be arrivals and 5% would be departures.

6.4 TRADE & EXHIBITION CENTRE BREAKDOWN

Central to assessing the traffic generation for Trade & Exhibition Centre would be to have an understanding of the types of events, catchments (local or regional), profiles of socio-demographics of the attendees, etc. Such data would normally be contained in business plan, however the plans for the T & E Centre at Cloverdale are still at an early stage and hence some broad assumptions have been made in assessing the trip generation.

For the purposes of this report, the potential traffic levels for the proposed Trade and Exhibition Centre have been based on data from Vancouver Convention & Exhibition Centre (VCEC). It has been adjusted to take into account of the geographical and accessibility characteristics of Trade & Exhibition Centre at Cloverdale, and it also recognizes that it is likely to be a more local orientated event facility than VCEC, and as such, is likely to have a lower intensity of use. These types of characteristics will be established in the future business plan that will be developed to support the development of the T & E Centre.

Like Arenas, the most appropriate proxy for assessing traffic generation levels is the number of expected attendees and preliminary figures have been generated at this stage of the development process.

At final build-out the Trade & Exhibition Centre under Scenario A would be expanded to 500,000 sq feet gross floor area (without the arena), while Scenario B would include the Arena and a smaller expansion to the T & E Centre up to 300,000 sq feet gross floor area.

For the purposes of this report, the 500,000 sq ft (GFA) T & E Centre would be expected to accommodate 8,000 attendees at any one time, the smaller expansion at 300,000 sq ft (GFA) would be expected to accommodate 5,000 attendees, while the Phase 1 Centre would be expected to accommodate 2,500 attendees. Set out in Table 6.2 is breakdown of the average attendance and overall attendance for a number of different events.

Table 6.2: Trade & Exhibition Centre Visitors (VCEC 2002)

Event Type	Average Attendance	Maximum Attendance
Banquets	413	2,130
Consumer Shows	3,590	9,500
Trade Shows	1,375	6,000
Meetings	185	1,250
Other	377	5,000

This table clearly demonstrates that even if the facility can accommodate larger attendee numbers for certain events, the typical attendance is usually significantly lower. In essence, it demonstrates that the T & E Centre will rarely operate at full capacity for an event.

Transportation patterns can vary considerably between the function and size of the event and whether it draws from a local or regional market. These different characteristics are set out in Table 6.3.

Table 6.3: Trade & Exhibition Centre Visitors and Exhibitors – Est. Mode Splits

Event Type	Walk/ On-Site	Public Transit	Personal Vehicle	Taxi/ Drop-Off	Charter Transit	Vehicle Occupancy
Local						
Banquet	3 - 7%	5 - 15%	60 - 70%	10 - 20%	3 - 7%	2.15 - 2.35
Consumer Show	3 - 7%	5 - 15%	65 - 75%	5 - 15%	3 - 7%	2.30 - 2.50
Meeting	3 - 7%	5 - 15%	60 - 70%	10 - 20%	3 - 7%	1.90 - 2.10
Other	3 - 7%	5 - 15%	60 - 70%	10 - 20%	3 - 7%	2.15 - 2.35
Regional						
Banquet	3 - 7%	5 - 15%	35 - 45%	10 - 20%	20 - 30%	2.15 - 2.35
Trade Show	3 - 7%	5 - 15%	40 - 50%	10 - 20%	15 - 25%	1.90 - 2.10
Meeting	3 - 7%	5 - 15%	40 - 50%	10 - 20%	15 - 25%	1.90 - 2.10

As can be seen, a consumer show would generate the largest proportion of auto usage, while Table 6.2 highlighted that it would have one of the highest attendance figures. As well, consumer shows do not share the same peak arrival / departure characteristics of an Arena and hence traffic generation levels are more evenly dispersed.

Banquets on the other hand tend to have a more concentrated demand period to tie in with the start and end of the event. Counter to this is that their attendance figures tend to be appreciably lower, for example, when compared to a consumer show, while they also tend to have a higher proportion of non-auto use as can be seen from Table 6.3.

For the purposes of assessing the maximum traffic generation for the T & E Centre, a consumer show event has been selected. To make the assessment robust, it has been assumed that 30% of the maximum attendees either enter or leave the building within a 1-hour period, with 20% arriving and 10% departing. In addition, it has been assumed that the consumer event would be 85% auto use and that vehicle occupancy is consistent with the figure in Table 6.3.

The breakdown from attendee trips to vehicle trips is presented in Table 6.4 for the different sizes of T & E Centres proposed. As this table shows, the traffic generation for the Phase 1 Centre is predicted to be around 420 vehicle trips, and this goes up to 1,400 trips with the largest format.

Table 6.4: T & E Centre Trip Generation Predictions

	Phase 1 2,500	Scenario A 8,000	Scenario B 5,000
Maximum Attendees in the building			
Peak Hour In	20%		
Peak Hour Out	10%		
Modal Split	85%		
Vehicle Occupancy	2.4		
Peak Hour Vehicles In	177	567	354
Peak Hour Vehicles Out	88	283	177

However, these figures should be viewed in the context that they are close the maximum that could be generated, and that majority of events will generate considerably less traffic. Again once the business plan is developed, these figures can be refined to the event profiles that are projected for the Trade & Exhibition Centre.

Employee trips for the Trade and Exhibition Centre are expected to be more spread out than that of the Arena. Given this, and that the Arena only generates around 40 to 60 employee vehicle trips, it would be expected that this would represent only a small proportion of the overall traffic demand. Therefore, the expected employee vehicle movements have been assumed within the robust trip generation figures for attendees.

6.5 TRIP GENERATION SUMMARY

Table 6.5 presents a general summary of the vehicle trip generation levels for all the different land-uses being considered for the Fairgrounds site.

Table 6.5: Vehicle Trips for the Planned Land Uses (Weekday 6 to 7pm)

Facility	Source	Rate- trips/ Unit	Units	Trips In / Out
Trade & Exhibition Centre	<i>see Table 6.3</i>		2,500 attendees	177 / 88
			5,000 attendees	354 / 177
			8000 attendees	567 / 283
Arena	<i>See Table 6.1</i>		5500 spectators	1480 / 78
Tourism Kiosk	-	-	1,500 sq. ft	Nil
Community Centre	ITE 495	1.64/1000 sq ft.	80,000 sq. ft.	38 / 93
Hotel	ITE 330	0.70 / room	250 rooms	86 / 89
Additional Amenity: Ice & Curling Rink or Indoor Pool	Hillcrest Ice Venue	3.20 / 1,000 sq.ft.	68,400	109 / 109
	ITE 492	4.05/ 1,000 sq.ft.	52,000	105 / 105

At final build-out, the Agriplex, Show Barn and Horseshoe pitch facility (62,000 sq ft GFA in total) will all be removed and this will result in a potential net reduction in traffic generation.

6.6 TRAFFIC GENERATION SUMMARY FOR PHASING OPTIONS

The following set outs the peak hour trips for Phase 1 and at final build out, covering Scenario A without the Arena and Scenario B with the Arena.

Table 6.6 summarizes the predicted traffic generation for Phase 1 of the development plans, and as is evident, the peak demand is expected to be around 570 to 580 vehicle trips maximum based on the conservation assumptions in this report.

Table 6.6: Phase 1 Vehicle Generation

Land-use	In / Out 6 to 7pm	Adjustment	Net Increase in Trips
Community Recreational Centre	38 / 93	none*	38 / 93
Trade & Exhibition Centre	177 / 88	none	177 / 88
Totals	N / A	N/A	215 / 181

*the net change with the existing facility has been ignored as the assessment is based on the hour after the ITE peak period (4pm to 6pm)

In Table 6.7 the vehicle generation is summarized for the final build out covering Scenario A, i.e. without the Arena.

Table 6.7: Final Build Out Scenario A (without Arena) Traffic Generation

Land-use	In / Out	Adjustment	Net Increase in Trips
Community Recreational Centre	38 / 93	none*	38 / 93
Trade & Exhibition Centre (8,000 attendees)	567 / 283	none	567 / 283
Hotel	86 / 89	60%*	34 / 36
Additional Amenity	109 / 109	none*	109 / 109
Totals	N / A	N / A	748 / 521

Similarly, Table 6.8 presents Final Build out Scenario B with the Arena.

Table 6.8: Final Build Out Scenario B (with Arena) Traffic Generation

Land-use	In / Out	Adjustment	Net Increase in Trips
Community Recreational Centre	38 / 93	none	38 / 93
Trade & Exhibition Centre (5,000 attendees)	354 / 177	70%*	106 / 53
Arena 5,500 attendees	1480 / 78	none	1480 / 78
Hotel	86 / 89	60%**	34 / 36
Additional Amenity	109 / 109	none	109 / 109
Totals	N / A	N / A	1767 / 369

Note *it would not be practical or desirable to have the T & E Centre operating at full capacity when there is an event at the Arena and hence the vehicle figures have been reduced by 70%. ** Recognizing the synergy with the event facilities.

Summing up, the traffic generation levels are fairly modest for Phase 1 at around 400 two-way peak trips between 6pm and 7pm. In Scenario A, for the same time, the traffic generation is expected to be in the region of 1,200 to 1,300 vehicles (maximum) based on the conservative assumptions made for the T & E Centre. In reality, the average attendance figures will generally be much lower than the capacity (see Table 6.2 for comparison between average and maximum) and hence traffic is more likely to be in the range 500 to 700 vehicles when an event is occurring.

Finally, the Spectator Arena (Scenario B) is likely to generate the highest traffic levels given the concentrated arrival (and departure) period, with around 1,800 to 2,000 vehicles trips predicted 1-hour before an event starting. As is the case with the parking demand, the assumption in this scenario is that the Trade and Exhibition Centre would operate at 30% of capacity and that there would be no synergy between these 'event' buildings.

In reality, however, it would be expected that the T & E Building would accommodate some of the supporting requirements for the Spectator Arena (e.g. pre event facilities). The business plan should provide a better understanding on this type of synergy, while it should also set out the likely programming of events, which could show that a higher level of usage at the T & E building could be accommodated when an event is occurring at the Spectator Arena. This will be a key issue for the full transportation assessment to address and indeed it is one of the main recommendations for further study that is made at the end of this report.

6.7 FURTHER CONSIDERATIONS

The trip generation figures in this report are aimed at providing a preliminary assessment of the transportation requirements to support the development proposal and have been based on conservative assumptions to present a worst case.

Once more details are presented on the Arena and Trade & Exhibition Centre, and in particular through the business plan, then a more detailed assessment can be undertaken that matches the catchments for events, the types of events, socio-demographics of the attendees, etc. Add in the influences of parking charges and transit improvements, and the traffic levels would be refined even further.

With regard to the Trade & Exhibition Centre being introduced in Phase 1, it will be possible to monitor the travel characteristics for events so that once an expansion is planned there will be more certainty on the traffic levels.

6.8 TRIP DISTRIBUTION

Trip distribution patterns have been based in part on regional / local population distribution patterns from previous traffic assessments for this site and in part from existing Cloverdale Fairgrounds site traffic patterns as observed in the previous April 3/99 surveys. The estimated site traffic distribution patterns are shown in Table 6.9.

Table 6.9: Trip Distribution

Routes	Trip Distribution Proportion (%)
176 Street to/from the North	30%
64 Avenue to/from the West	25%
64 Avenue to/from the East	5%
60 Avenue to/from the West	15%
60 Avenue to/from the East	5%
176 Street to/from the South	20%
Total	100%

As Table 6.9 illustrates, about 50% of the site traffic is orientated towards the Northwest direction from the Cloverdale Fairgrounds site. The specific trip assignment of the site traffic to different site accesses is determined by the proximity of the access to the location of different uses within the site. Like the vehicle trip generation, these figures will be refined once the business plan is produced.

In the following section these proportions are applied to the predicted traffic generation to assess the potential number of turning movements at each of the gates to the Fairgrounds site.

7.0 TRAFFIC OPERATIONS

7.1 INTRODUCTION

The purpose of this section is to provide a broad indication on how the road system, bordering the Fairgrounds site, operates during the weekday afternoon and Saturday peak traffic periods. It will not, however, consider the development's effect for the following reasons:

- the development plans are still at early stage and it would not be appropriate to do an exhaustive assessment based on the preliminary traffic figures in this report;
- the peak background traffic and event traffic periods differ and a more comprehensive set of data would be needed to cover an weekday evening period between 5pm and 11pm and a Saturday and / or Sunday between 11am and 11pm; and,
- the operational assessment would not be relevant for large attendance events, where traffic management measures will be needed to coordinate traffic into and out of the site as the traffic signal timings are unlikely to be receptive to such peak demands.

7.2 MODELLING ASSUMPTIONS

Traffic operations in the study area were evaluated using the Trafficware Synchro traffic analysis package.

For signalized intersections, the reported measures of traffic performance include the calculated Volume to Capacity (V/C) ratio and a corresponding delay-based traffic Level of Service (LOS) indicator ranging from ideal LOS 'A' conditions with minimal delay (< 10 sec per vehicle) through to LOS 'E' 'near capacity' conditions (> 55 sec and < 80 sec per vehicle) and LOS 'F' 'over-saturated' conditions (> 80 sec per vehicle.)

For unsignalized intersections, the reported measures of traffic performance include the calculated Volume to Capacity (V/C) ratio and a corresponding traffic Level of Service (LOS) indicator ranging from ideal LOS 'A' conditions with minimal delay (< 10 sec per vehicle) through to LOS 'E' 'near capacity' conditions (> 35 sec and < 50 sec per vehicle) and LOS 'F' 'over-saturated' conditions (> 50 sec per vehicle.)

7.3 SITE ACCESS AND ADJACENT TRAFFIC INTERSECTIONS

Currently there are eight gates that provide vehicular access to the site. Vehicles accessing Gate 1, 2, and 3 are predominantly related to the racetrack and the casino however the City of Surrey has an unregistered SRW through the car park that could potentially be utilized for large attendance events.

176B at 60 Street will be located some 40 metres east of its current position and it is planned to be restricted to a right-in / right out with a pedestrian-actuated signal (subject to a full review by the City of Surrey and Ministry of Transportation). It will be sub-servant to the master intersection at Highway 15 / 60 Avenue to minimize delays and queuing of the main east-west traffic movements on 60 Avenue. With this realignment, 176A Street 'main street' will form a 'T' intersection with 60 Avenue, with the benefit of reducing the number of turning movements at this location. These changes will need to be approved by the Ministry of Transportation given their proximity to the Highway 15 / 60 Street intersection.

Gate 7 at Highway 15 will be removed under the built-out condition, while a new access road will be constructed to 64 Avenue (denoted as Gate 9), connecting directly with the access for the newly opened commercial centre to the north.

Gates 5, 6 and 8 will remain in their present locations. Both Gates 5 and 8 will be secondary access points to the site, with negligible traffic volumes, and they have therefore not been analysed for the 2008 Background Traffic Condition. Gate 8 is likely to be used a release valve to supplement Gate 9 for large events and would generally be used by service vehicles outside event times.

The traffic operational assessment covers the following intersections:

- Gate 9 / 64 Avenue
- Highway 15 / Gate 6
- Highway 15 / 64 Avenue
- Highway 15 / 60 Avenue

7.4 2008 BACKGROUND TRAFFIC CONDITION

Table 7.1 summarizes the operational performance of the study intersections and site accesses under the 2008 Background Traffic Condition.

In the main, the road network operates satisfactorily at peak times with only one movement having a V/C at over 0.90. Further, it would be expected that there would be additional capacity for the event peak periods, e.g. between 6pm and 7pm and this would be established with a wider collection of survey data as mentioned earlier.

Table 7.1 – Capacity Analysis, 2008 Background Traffic Condition

Intersection	Critical Movements	Weekday PM Peak		Saturday Peak	
		V/C	LOS	V/C	LOS
<i>Signalized Intersections</i>					
Highway 15 / 64 Avenue	EBL	0.63	C	0.45	B
	EBT/R	0.81	C	0.73	C
	WBL	0.40	B	0.29	B
	WBT/R	0.93	C	0.82	C
	NBL	0.30	B	0.24	B
	NBT/R	0.65	C	0.64	B
	SBL	0.42	B	0.33	B
	SBT/R	0.71	C	0.51	B
	<i>Overall</i>	<i>0.74</i>	<i>C</i>	<i>0.62</i>	<i>B</i>
Highway 15 / 60 Avenue	EBL	0.18	B	0.11	B
	EBT/R	0.89	C	0.74	C
	WBL	0.55	B	0.37	B
	WBT/R	0.60	B	0.64	B
	NBL	0.64	C	0.44	B
	NBT/R	0.71	C	0.53	B
	SBL	0.81	D	0.53	B
	SBT/R	0.68	C	0.55	B
	<i>Overall</i>	<i>0.84</i>	<i>C</i>	<i>0.61</i>	<i>B</i>
Highway 15 / Gate 6	WB	0.40	B	0.42	B
	NB	0.40	A	0.40	A
	SBL	0.10	A	0.12	A
	SBT/R	0.45	A	0.33	A
	<i>Overall</i>	<i>0.43</i>	<i>A</i>	<i>0.40</i>	<i>A</i>
64 Ave / Gate 9 (North Side Only)	EBL	0.26	B	0.30	B
	EBT/R	0.71	B	0.57	B
	WBL	0.66	B	0.57	B
	SBL	0.32	B	0.29	A
	SBR	0.22	B	0.19	A
	<i>Overall</i>	<i>0.54</i>	<i>B</i>	<i>0.43</i>	<i>B</i>

Notes:

1. V/C is the 'Volume to Capacity' Ratio.
2. LOS is the 'Level of Service'.
3. For signalized intersections, the overall intersection conditions are shown as well as key movements.
4. For unsignalized intersections, the critical movement conditions are shown.

7.5 PREDICTED TRAFFIC GENERATION AT EACH GATE

Based on the traffic generation levels and distribution patterns established in the previous section (Tables 6.6 to 6.8), the following tables present an indication of the level of traffic that will be generated at each gate during the weekday period, 6pm to 7pm, for the planned phases / scenarios. The figures in these tables have

been rounded up to reflect the broadness of the assessment and are also shown at **Exhibit 2**.

Table 7.2: Phase 1

Intersection	Left-turn		Right-turn	
	In	out	In	Out
Gate 9 / 64 Avenue	10	40	80	10
Gate 8 / 64 Avenue	Not required			
Gate 6 / Highway 15	70	65	30	85
Gate 5 / Highway 15	X	X	20	X
Gate 4 / 60 Avenue	X	X	5	10
Gate 2 / 60 Avenue	Not required			
Total	80	105	125	105

Table 7.3: Final Build-out Scenario A without Arena

Intersection	Left-turn		Right-turn	
	In	Out	In	Out
Gate 9 / 64 Avenue	80	70	260	130
Gate 8 / 64 Avenue	Not required			
Gate 6 / Highway 15	200	120	120	160
Gate 5 / Highway 15	X	X	60	X
Gate 4 / 60 Avenue	X	X	30	20
Gate 2 / 60 Avenue	Not required			
Total	280	190	470	310

Table 7.4: Final Build-out Scenario B with Arena

Intersection	Left-turn		Right-turn	
	In	Out	In	Out
Gate 9 / 64 Avenue	100	120	600	100
Gate 8 / 64 Avenue	Only required at the end of events			
Gate 6 / Highway 15	520	120	300	100
Gate 5 / Highway 15	X	X	150	X
Gate 4 / 60 Avenue	X	X	50	20
Gate 2 / 60 Avenue	Not required			
Total	620	240	1100	220

These turning movements indicate that traffic management measures at the main intersections would probably only be required when the Spectator Arena is operational. Further, it may also be necessary to consider the use of Gate 2 (Racetrack) at 60 Avenue which could accommodate 150 to 200 left-turn movements in; however, there is probably no real justification at this stage for constructing a new connection at 60 Avenue, especially given that there is little traffic generated from the east.

8.0 TRAFFIC MANAGEMENT

8.1 INTRODUCTION

A traffic management plan will be required to manage traffic movements for large events at the Arena (under Scenario B). In the following paragraphs a broad outline of the measures are set out to show how vehicular movements could be managed in a safe and efficient manner, and in particular, be dissipated quickly onto the wider road network.

8.2 STREET SYSTEM

As mentioned in Section 3, the permeable street layout will provide a number of vehicle route options to move traffic in an efficient manner through the site.

As well, the street design provides flexibility to cater for Arena event and non-event scenarios. In particular, during Arena event scenarios (proposed Spectator Arena, Stetson Bowl), on-street parking on the internal street network would be restricted, allowing extra capacity on the street system, i.e. providing two 3.25-metre lanes and a 3.5 metre lane on the streets, while the Boulevard roadways, at 6-metres wide per roadway, would be capable of accommodating two travel lanes per direction at peak times.

In the case of non-events scenarios, parking will be allowed on-street on the internal streets (except the Boulevards), and this will help to give the roads more urban feel, as well as helping to moderate vehicle speeds.

8.3 TRAFFIC SIGNAL CONTROL

Traffic signal timings cannot realistically be adjusted to accommodate the peak demands that are generally observed at large events. Therefore it will be necessary to switch-off selected traffic signals for the event periods, i.e. at the start of and end of a major event.

Movements at the signals would be managed by an experienced operative. Indeed, experienced operatives can move traffic more efficiently than would be case if the traffic signal timings were adjusted.

It is likely that manual control will be required at the main west and north accesses points to the site and on the secondary north access (Gate 8). As well, the existing traffic signals on Highway 15 at 64 Avenue and 60 Avenue will probably need to operate under manual control. In addition, all internal intersections and the main parking access points will need to be controlled by experienced operatives.

8.4 TRAFFIC DISSIPATION

Outside the immediate environs of the Cloverdale site, traffic can easily dissipate onto the surrounding arterial and primary road network. For example, there are three routes to the Fraser Highway / Highway 1, i.e. via 64 Street, 60 Street or Highway 15. Furthermore, the proximity of Highway 10 to the south provides an alternative east-west route to 64 and 60 Streets in accessing Highway 1 and Fraser Highway to the east and King George Highway and Highway 91 to the west.

More generally, the grid system in this part of Surrey lends itself to dissipating traffic quickly.

8.5 SECTION SUMMARY

An effective traffic management plan will help to avoid the necessity in building extra road capacity just to accommodate Arena traffic for short periods of time, i.e. typically less than 60-minutes. Moreover, the presence of manual traffic control personnel provides better safety and coordination than would be the case under automated control.

Therefore given this, the future development plans at the Fairgrounds site should consider a more detailed assessment of the requirements for a Traffic Management Plan to manage arena events.

9.0 SUMMARY AND RECOMMENDATIONS

This report has provided a broad assessment of the transportation and parking requirements for the redevelopment plans at the Cloverdale Fairgrounds site.

A new internal street network will be developed as part of the redevelopment plans to provide permeability through the Fairgrounds site for pedestrians, cyclists and vehicles. These internal roads will connect with the peripheral road system (i.e. Highway 15, 64 and 60 Avenues) at three traffic signal controlled intersections and three minor stop control intersections.

As well, a connection to 180 Street will be investigated as well as additional connection to 60 Street, while the unregistered SRW through Fraser Downs Casino car park would also need to form part of the access strategy.

The report has focused on two development phases, although there could be more, while the Ultimate build-out phase has focused on two potential options for the Spectator Arena / Trade & Exhibition Centre plans.

Phase 1 includes 150,000 square feet GFA of Trade & Exhibition Centre, 1,500 square feet GFA of Tourist Kiosk and 80,000 square feet GFA Community Recreation Centre. These uses would be supported by around 1,000 parking spaces.

At the final build-out phase, it is proposed to have a 250 bed hotel, an extension to the Trade & Exhibition Centre and possibly a 5,500 seat Spectator arena. These uses would be supported with between 2,500 and 3,500 parking stalls, depending on the preferred development option.

These parking level projections are high due to the inaccessible location for non-auto journeys, and in particular for the Spectator Arena and Trade & Exhibition Centre. They could, however, be reduced if a transit shuttle is introduced from Surrey Central Station (bus and SkyTrain interchange) and that the shuttle is coordinated with the start and end times of events. Other transit improvements may also help, such as improving local services.

Another option to reduce parking levels would be to introduce a parking charge regime and this would have two particular benefits. First, it will assist in increasing the average occupancy of vehicles, with more people car-pooling; and second, it will encourage more transit use. Indeed, these parking charges could be used to cross-subsidize the transit service and potentially make it free for people who have a valid transit pass for the particular day of the event. It is estimated, that with the above measures, parking demand could be reduced by between 5% and 15% depending on the event and the time of day that it occurs.

Parking charges would need to be considered in the context of their potential impact on the surrounding residential areas and it may be case that a parking management plan is required for large events.

Approximately 660 to 710 parking stalls have been identified that could be used to supplement the peak demand requirements, and potentially reduce the amount, or the requirement for, structured parking. These spaces would need to be secured with the owners / leaseholders.

Traffic generation for non-event days is likely to be in the range of 200 to 250 vehicles in the afternoon peak hour, while for event days the peak number could be in the range 1,200 to 2,000 vehicles (without transit improvements and parking charges).

Once the plans for the Fairground site are developed, and in particular when they are supported with a business plan, the projected traffic generation for events can be predicted with more clarity. In addition, a comprehensive set of traffic flow data should be collected on the surrounding roads to cover the periods of the events operation.

Based on this preliminary assessment, there is some capacity on the local road system to accommodate non-event traffic movements, and especially now that Highway 15 has been upgraded to a five-lane roadway (including left-turn lanes).

For event situations, the Fairgrounds site will have, at least, 6 gates / connections with the external road network, three of which will have traffic signals. These gates are connected internally by a network of streets which can be adapted to accommodate the peak event demands through the restricting of on-street parking. In sum, these connections will help to maximize dissipation onto the road network.

Spectator Arena events will require a Traffic Management Plan to coordinate vehicular and pedestrian movements within and on the periphery of the Fairgrounds site. Such arrangements are typical for large event venues and would be coordinated with the police.

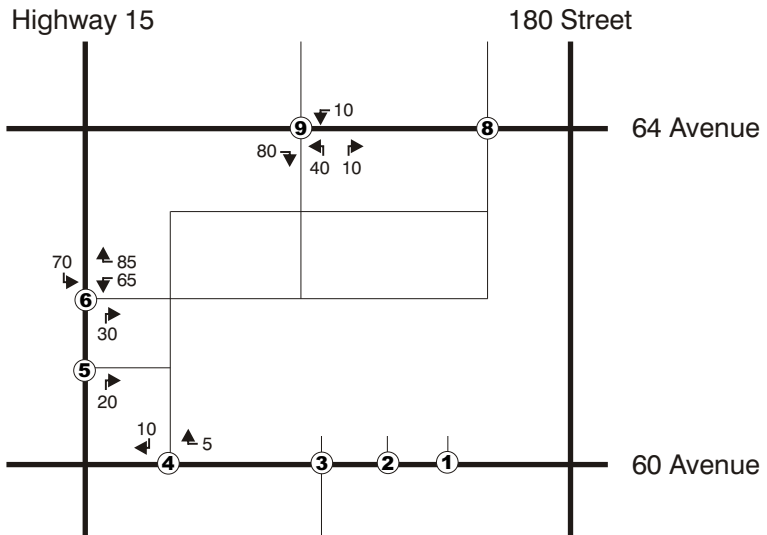
Based on this report, it is recommended that the following issues, as a starting point, be included in a full transportation assessment to support the redevelopment plans:

- That a full transportation assessment is produced based on the business plan for the Arena / Trade & Exhibition Centre;
- That the future design years for the assessment are consistent with the City of Surrey's requirements;

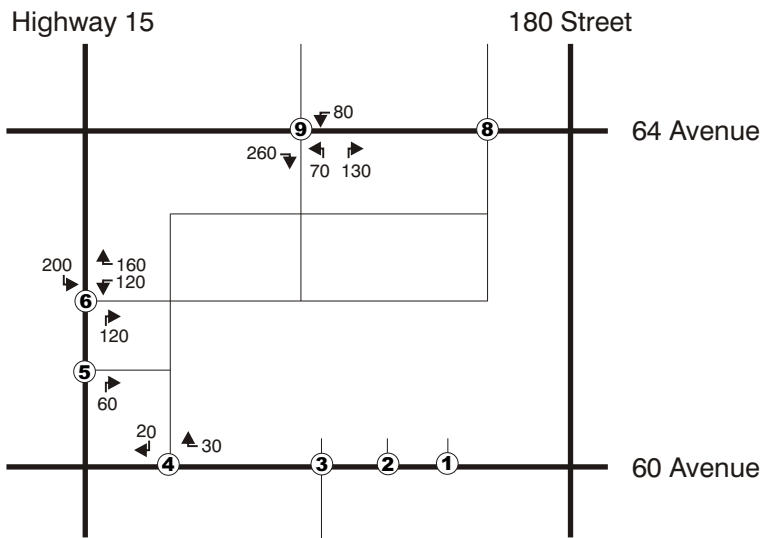
- That the days for the assessment, at a minimum, cover a weekday and Saturday / Sunday with the study hours agreed with the City of Surrey;
- That the vehicle trip generation and distribution patterns are consistent with the business plan;
- That street connections from the Fairgrounds site be investigated to:
 - a) 180 Street on the alignment of 62 Avenue,
 - b) 60 Avenue on the alignment of 179 Street;
- That a parking charge regime be considered to manage demand and to encourage more sustainable forms of transportation;
- That the need for a parking management be investigated in the vicinity of the Spectator Arena / Trade & Exhibition site for event days, including covering the neighbouring residential streets;
- That the opportunities for shared parking be fully explored;
- That the opportunities to improve transit to the Fairgrounds site be explored, including existing service routes, a dedicated service from the SkyTrain (for large events) and chartered services, and that this should be done in consultation with TransLink and other interested groups;
- That a cycle parking strategy be developed for the site to meet the needs of visitors and employees and is based on best design practices;
- That a detailed assessment is made on the proposed pedestrian-actuated crossing at 176B Street / 60 Avenue and that it is conducted in consultation with the Ministry of Transportation;
- That the report pays particular attention to the peak demands for a Spectator Arena / Trade & Exhibition Centre and that this assessment is consistent with the business plan;
- That consideration is given to plans to introduce a tourist streetcar, bearing in mind the street design challenges (including the issues highlighted in this report) and its general feasibility along the suggested route; and,
- That a traffic management plan is developed to accommodate the traffic and parking demands for large events at the Spectator Arena and / or the Trade & Exhibition Centre.



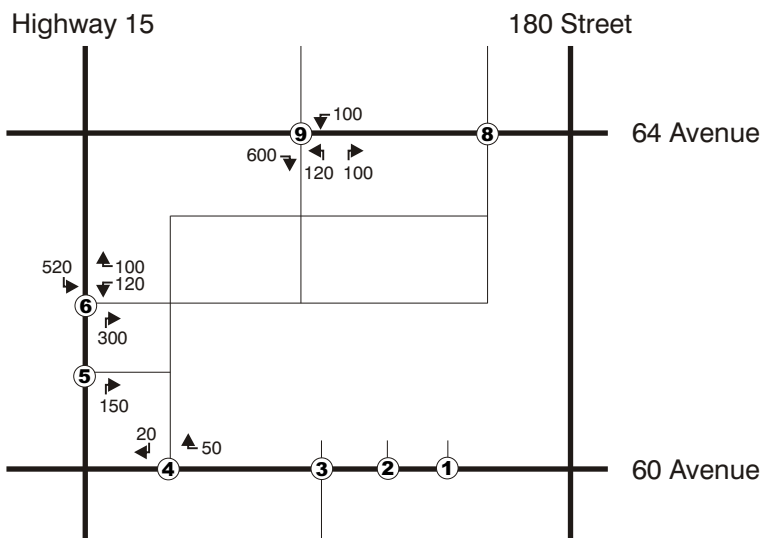
*Phase 1
Development Traffic*



*Final Build-out Scenario A
(Without Arena)
Development Traffic*



*Final Build-out Scenario B
(With Arena)
Development Traffic*



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