

# ***Twin Brooks Neighbourhood Area Structure Plan***

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Office Consolidation October 2013

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*Prepared by:*

***Planning and Policy Services Branch  
Planning and Development Department  
City of Edmonton***

**Bylaw 6259, as amended, was adopted by Council in February 1982. In December 2006, this document was consolidated by virtue of the incorporation of the following bylaws:**

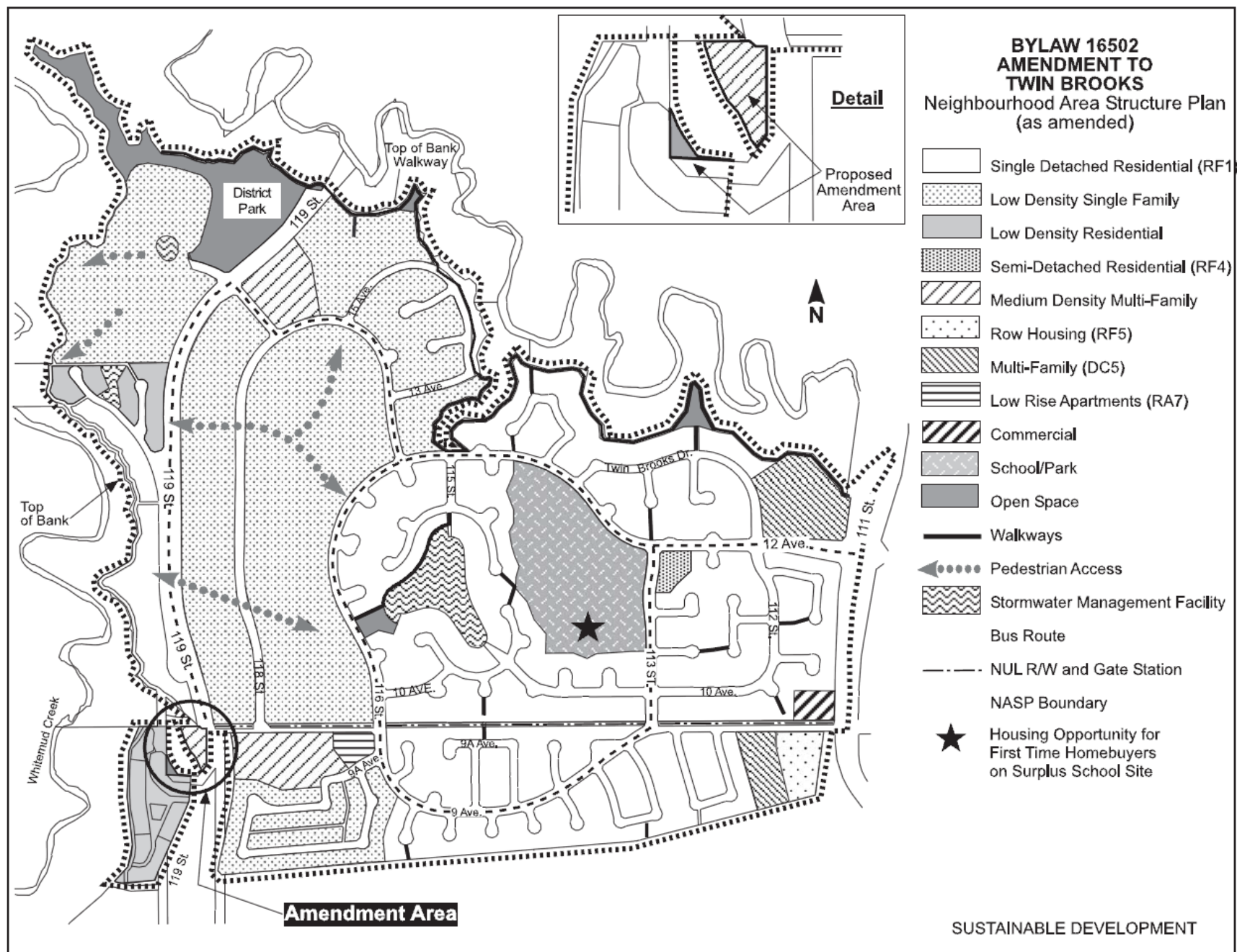
<i>Bylaw 6259</i>	Approved February 23, 1982 (to adopt the Twin Brooks Area Structure Plan)
<i>Bylaw 9094</i>	Approved March 14, 1989 (to change the name of the plan to the Twin Brooks Neighbourhood Area Structure Plan and replacing all schedules in the NASP)
<i>Bylaw 9604</i>	Approved October 16, 1990 (to raise dwelling unit caps)
<i>Bylaw 9883</i>	Approved October 9, 1991 (to establish the future alignment of 119 Street through the Twin Brooks area and change the land use within the south portion of the Special Study Area)
<i>Bylaw 9902</i>	Approved October 9, 1991 (to increase the size of the Special Study Area; to relocated commercial site; and, to reconfigure and rezone residential parcels)
<i>Bylaw 10449</i>	Approved July 27, 1993 (to realign collector roadway network and remove development caps; to establish the developer's commitment to contribute financially towards the construction of the arterial roadways; to reconfigure land uses in the western portion of the plan area)
<i>Bylaw 10448</i>	Approved July 27, 1993 (to revise the boundary of and change land use descriptions in the plan area)
<i>Bylaw 11376</i>	Approved January 7, 1997 (to convert the last remaining portion of the Special Study Area into low density single family uses)
<i>Bylaw 11608</i>	Approved October 20, 1997 (to designate a site in the southwest corner of the neighbourhood as low density residential)
<i>Bylaw 11953</i>	Approved February 8, 1999 (to modify the land use pattern within the western portion of the plan area)
<i>Bylaw 14442</i>	Approved December 12, 2006 (to accommodate row house development for first time homebuyers on a vacant surplus school building envelope located on a school/park site)
<i>Bylaw 16502</i>	Approved September 16, 2013 (to reconfigure Residential and Open Space uses in the southwest portion of the neighbourhood)

## **Editor's Note:**

This is an office consolidation edition of the Twin Brooks Neighbourhood Area Structure Plan, Bylaw 6259, as approved by City Council on February 23, 1982. This edition contains all amendments and additions to Bylaw 6259.

For the sake of clarity, new maps and a standardized format were utilized in this Plan. All names of City departments have been standardized to reflect their present titles. Private owners' names have been removed in accordance with the Freedom of Information and Protection of Privacy Act. Furthermore, all reasonable attempts were made to accurately reflect the original Bylaws. All text changes are noted in the right margin and are italicized where applicable.

This office consolidation is intended for convenience only. In case of uncertainty, the reader is advised to consult the original Bylaws, available at the office of the City Clerk.



# **TWIN BROOKS NEIGHBOURHOOD AREA STRUCTURE PLAN**

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## 1.0 INTRODUCTION AND BACKGROUND

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*Notwithstanding any part or policy of this Plan, an opportunity to develop housing for first time homebuyers exists on a vacant surplus school building envelope on the school/park site as illustrated on the approved land use Plan map and as specified under the Community Services Zone. The Community Services Zone reflects the underlying, pre-existing zoning and will, in addition, allow for row housing and related accessory uses. The housing opportunity will occur on an area equal to the portion of the surplus school building envelope. The precise location of this housing within the entire School/Park site will be reviewed and determined by the City. The dwelling units and population generated by this development under the Community Zone are not included in the statistical summary.*

Bylaw 14442  
December 12, 2006

### 1.1 FOREWORD

This document and accompanying plan represents a revised Neighbourhood Area Structure Plan for the balance of the Running Creek Neighbourhood and the approved Hidden Brook Neighbourhood in Twin Brooks. It has been prepared by IMC Consulting Group Inc. on behalf of the Twin Brooks Partnership, a joint venture between *three private corporations*, the major owners of the land within the area. The objective of the plan is to provide a framework for development of the plan area. This will encourage attractive and economical development in a manner which is compatible and complementary to existing developments in South Edmonton.

Amended by Editor

### 1.2 DEVELOPMENT RATIONALE

The owners are desirous of developing the property within the proposed area because the lands are ideally suited for development and are immediately serviceable. The development will meet an unfulfilled market demand of the housing consumer in - South Edmonton. Current growth trends coupled with the potential of immediate servicing of the area indicates a 1989 development commencement date.

Primary access is to be provided from the 111 Street arterial roadway which exists and which has been realigned adjacent to Phase I of Running Creek on the east side of 111 Street. The development of the area west of the proposed 111 Street alignment represents a logical phase of a new self contained area.

### 1.3 POLICY CONTEXT

This document, and accompanying plans, have been prepared in accordance with Section

64 of the Planning Act. This Neighbourhood Area Structure Plan describes the proposed land use, density of development, the location of major and local roads and utilities, and the anticipated sequence of development. The City of Edmonton Council have adopted 'Terms of Reference for Residential Neighbourhood Structure Plans'. This Neighbourhood Area Structure Plan conforms with these requirements.

In addition, this Neighbourhood Area Structure Plan has been prepared in conformance with the City's General Municipal Plan, and other relevant municipal policies.

#### 1.4 SCOPE OF PLAN

The Neighbourhood Area Structure Plan as proposed, provides for the orderly development of the neighbourhood, specifying land uses, residential density patterns, park and school requirements and locations, roadway structure and transportation requirements, as well as the servicing and utility requirements.

The design for the area is intended to establish a framework within which development will take place and incorporates municipal requirements for the area, in order that consistent and coordinated development may take place responsive to the needs and requirements of the future residents.

The Neighbourhood Area Structure Plan will provide a sound framework within which City Council can consider districting, and the various review agencies and the Municipal Planning Commission may properly and fully evaluate subsequent detailed subdivision applications.

It should be noted that the plan represents an optimum housing mix according to present trends. As such, it must be realized that within the time span for implementation of the plan, flexibility is required in order that changing residential demands can be accommodated.

## **2.0 EXISTING FEATURES AND FACTORS INFLUENCING THE PLAN**

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### **2.1 GENERAL**

In the preparation of the Neighbourhood Area Structure Plan it was necessary to examine existing site conditions and inventory existing influences, both natural and man made.

### **2.2 LOCATION AND URBAN CONTEXT**

The Twin Brooks Neighbourhood Area Structure Plan covers the triangular area bounded by the Blackmud Creek to the northeast, the Transportation and Utility Corridor Restricted Development Area to the south and Whitemud Creek to the west. Figure 1 shows the location of the plan area relative to major urban activity centres, other outline plan areas and the Restricted Development Area in the south central part of the City.

### **2.3 LAND OWNERSHIP**

Land ownership within the plan area is listed in Appendix I and referenced on Figure 2 herein. It represents no major constraint to development.

### **2.4 NATURAL FEATURES**

#### **2.4a Topography**

The Twin Brooks lands include about 194 ha of table land. The upland is triangular in shape, and relatively flat. The slope of the site is towards the north and west with relief being in the order of 5 m.

Bylaw 11953  
February 8, 1999

The most significant features of the area are the two ravines: the Whitemud which forms the western boundary and the Blackmud which lies between these lands and the developed part of Kaskitayo to the north and east. (They have substantial topographic relief with the creek bottoms being anywhere from 18 m to 30 m below the top of the bank). The main valleys are approximately 150 m wide with small streams meandering from valley wall to valley wall the banks are relatively steep, with slopes ranging from 15% to 45%.



Housing development is to be set back from the top-of-bank as determined in the slope stability study. A detailed slope stability analysis was carried out to determine the appropriate development line, based on the geotechnical requirements of the area. Refinement of this development line will be addressed in further detail at the subdivision stage. A top-of-bank survey exclusive of the Special Study Area (*has been redesignated as low density single family, low density residential, and single detached residential*) has been carried out for the development by Walker, Newby & Associates.

Bylaw 11376  
January 7, 1997  
Bylaw 11953  
February 8, 1999

*With regards to the lands located adjacent to the Whitemud and Blackmud Creek Ravines top-of-bank surveys were conducted as the development of the Special Study Area occurred.*

Amended by Editor

- *The southern portion was analyzed thoroughly by E.B.A Engineering Consultants, geotechnical engineers, to evaluate the geotechnical suitability of that area for development purposes. A comprehensive report entitled, "Slope- Set-back Study, Valley Wall of Whitemud Creek, S.E. ¼ 4-36-51-25-W4M, Edmonton, Alberta" dated May 1989.*

Bylaw 9883  
October 9, 1991  
Amended by Editor

- *Three other top-of-bank surveys were conducted for the southern portion in 1993 (Walker Consulting), 1998 (UMA Geomatics) and 2012 (CT and Associates). A review of the geotechnical studies by UMA in 1998 and CT & Associates concluded that the area is suited for residential development, subject to two setbacks from the top-of-bank:*

Bylaw 11953  
February 8, 1999  
Bylaw 16502  
September 16, 2013

*1. A non-disturbance development setback was recommended, within which no disturbance or removal of vegetation would be allowed. This setback conforms to the Top of Bank guidelines.*

*2. A building setback was also recommended within which minor development such as fences or walkways would be permitted. However, no permanent structures or dwelling would be allowed. The building setback varies. This setback conforms to the Top of Bank guidelines.*

- *The top-of-bank was surveyed in the northern portion (the Whitemud/Blackmud Creek Triangle) in 1990 by Stanley Associates Engineering Ltd. And a slope stability evaluation was conducted by A.D. Williams Engineering Ltd.*

Bylaw 11376  
January 7, 1997

#### 2.4b Soil Category

The soils encountered in the area are typical of the Edmonton area, consisting of an upper stratum of lacustrine clay and silt to depths of between 6 m and 9 m below the table land surface overlying a glacial till which in turn rests on bedrock. The bedrock consists mainly of shale, mudstone and sandstone.

The upper lacustrine material consists of low to medium plastic clay, with some silt. This will pose no hindrance to development. The area has an agricultural land capability of 1 under the Canadian Land Inventory Classification System. Most of the test holes drilled on the site revealed the presence of groundwater. However, this is not expected to pose any serious construction problems.

#### 2.4c Vegetation

The only major tree cover is in the two ravines with the exception of a shelter belt at an old farmstead. It is a most aesthetically pleasing and valuable component of the site. The expanse of forests and shrubbery provide a pleasant relaxed environment as well as habitat for a variety of wildlife. A less obvious but equally important value of the valley vegetation is stabilization of surface soils on the steep side slopes and creek banks. Spruce and poplar are the major tree species in the area and exist at varying - stages of maturity.

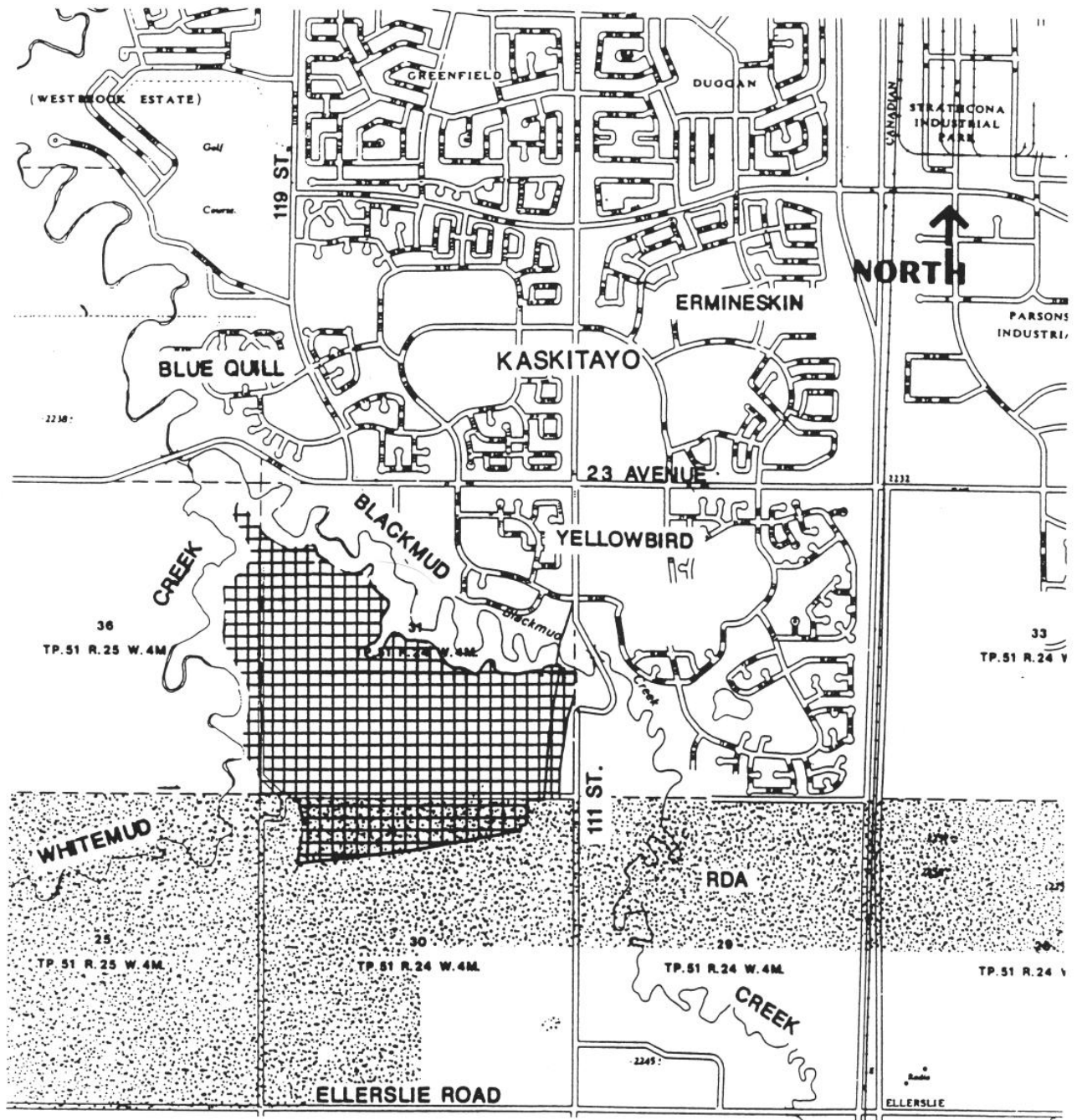
### 2.5 EXISTING LAND USES AND OWNERSHIP

The majority of the Twin Brooks lands are held as large parcels. Figure 2 indicates the owners at the present time. The main parts of the area are within Sections 30 and 31, Township 51, Range 24, W4M, with smaller areas in S.W. 32 on the east and Section 36, Range 25, on the west.

All of the table land have been cultivated as have the lands in the Restricted Development Area to the south. Within the plan area there is one farmstead, located on the 16 ha (40 acre) former Buzenus property. There are other residences in the vicinity of the ravines, one home in the northwest ravine area and two properties near the road diversion across Blackmud Creek at 111 Street. There are three homes in that part of the RDA that will be included in the Plan (see Figure 3).

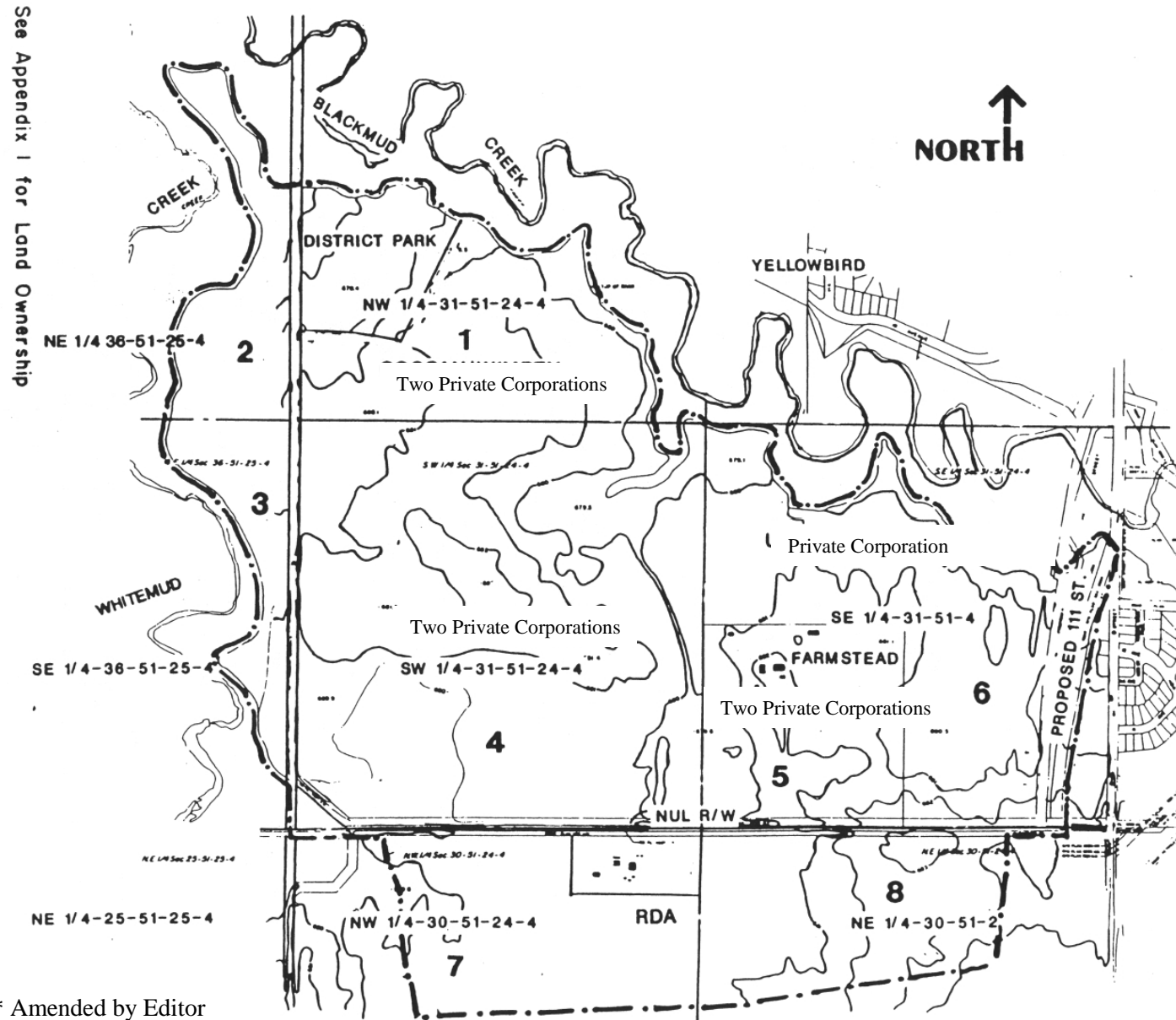
## Figure 1.0 Location Plan

(Bylaw 9094, March 14, 1989)



## Figure 2.0 Site Features \*

(Bylaw 9094, March 14, 1989)



A number of oil and gas pipelines cross the area east of 111 Street and serve industrial developments further within the City. A *gas line* crosses the southern portion of the site, adjacent to the roadway, in a 15 m right-of-way. Special site planning considerations will have to be given to the development of the land uses around the pipeline in regard to City Policies concerning setbacks. There are no actively producing oil or gas wells in this area. Several roads have been developed, with the new road allowance on the 111 Street alignment being the main north-south access. The road allowance to the west of Section 31 is not developed across the Blackmud Creek and serves only the south side. An east-west road (9 Avenue N.W.) runs along the south portion of the neighbourhood. These roads have been built to a rural standard with ditches on both sides. The most travelled routes have been hard surfaced.

Amended by Editor

## 2.6 ARCHEOLOGICAL ANALYSIS

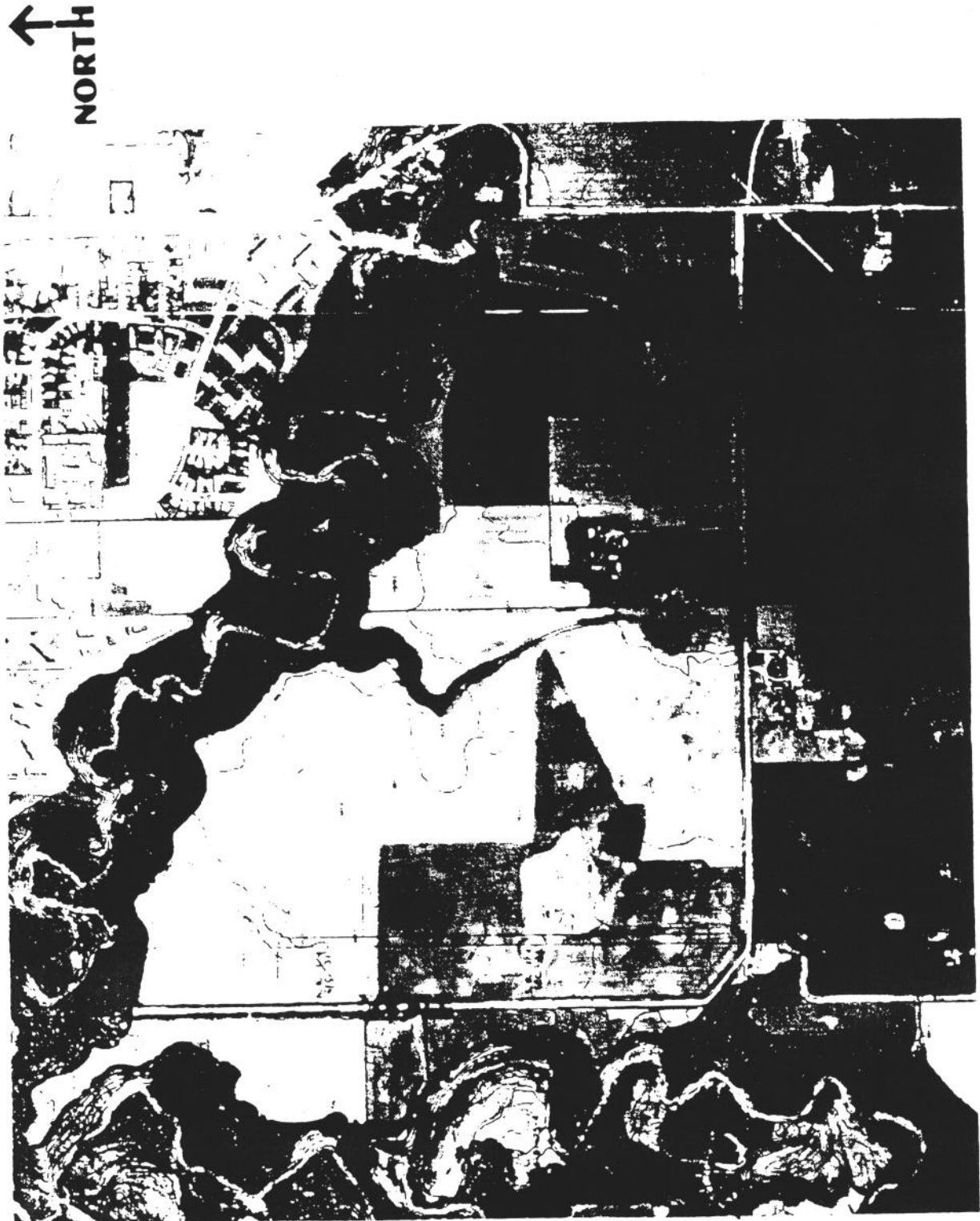
An archeological analysis of the Twin Brooks area within the City boundary was carried out in the fall of 1979 by Archeological Researches International Ltd. An intensive archeological reconnaissance was made in which all parts of the property were walked, with more detailed inspection being done on specific sites.

A report was prepared, entitled "Final Report of an Historical Impact Assessment of a Proposed Subdivision in the South Kaskitayo District".

The Report concluded that the site had been totally disturbed by plowing and wind erosion, and that nothing of prehistoric significance will be lost by intensive construction activity. It was also found that all the early homestead buildings on the property have been torn down, moved or replaced, so nothing of historic significance remains.

### Figure 3.0 Aerial Photo

(Bylaw 9094, March 14, 1989)



## 2.7 TRANSPORTATION CORRIDORS

Twin Brooks is served internally by the roadways described in Section 4.4. The existing City of Edmonton arterial roadways north of the area include: 119 Street north of 23 Avenue, 111 Street and 23 Avenue. These roads connect to the south Edmonton circulation system including Calgary Trail (Highway No. 2) and Whitemud Drive (45 Avenue) and will provide a strong access relationship to and from the Twin Brooks Area.

Bus transit service is currently provided to the built up parts of the Kaskitayo district. *The main connection point is at the Transit Centre located at Heritage Mall which will allow for convenient transit connections to and from all parts of the community as well as other surrounding areas.*

Bylaw 16502  
September 16, 2013

*As part of the ongoing development of the Kaskitayo growth areas which included the Twin Brooks area, major elements of the overall transportation system have been planned. These are shown on Figure 4 and may be described as follows:*

Bylaw 16502  
September 16, 2013

1. *111 Street - a 4 lane divided arterial road with capability to be expanded to 6 lanes, planned to extend south to the Anthony Henday Drive and beyond.*
2. *23 Avenue - a 6 lane divided arterial road existing from the Calgary Trail to 119 Street.*
3. *Anthony Henday Drive - a limited access, high speed roadway in the Transportation and Utility Corridor immediately south of Twin Brooks.*
4. *119 Street - a 2 lane roadway connecting the Anthony Henday Drive south of Twin Brooks.*
5. *Century Park Transit Centre and LRT Station – located northeast of 111 Street NW and 23 Avenue NW.*

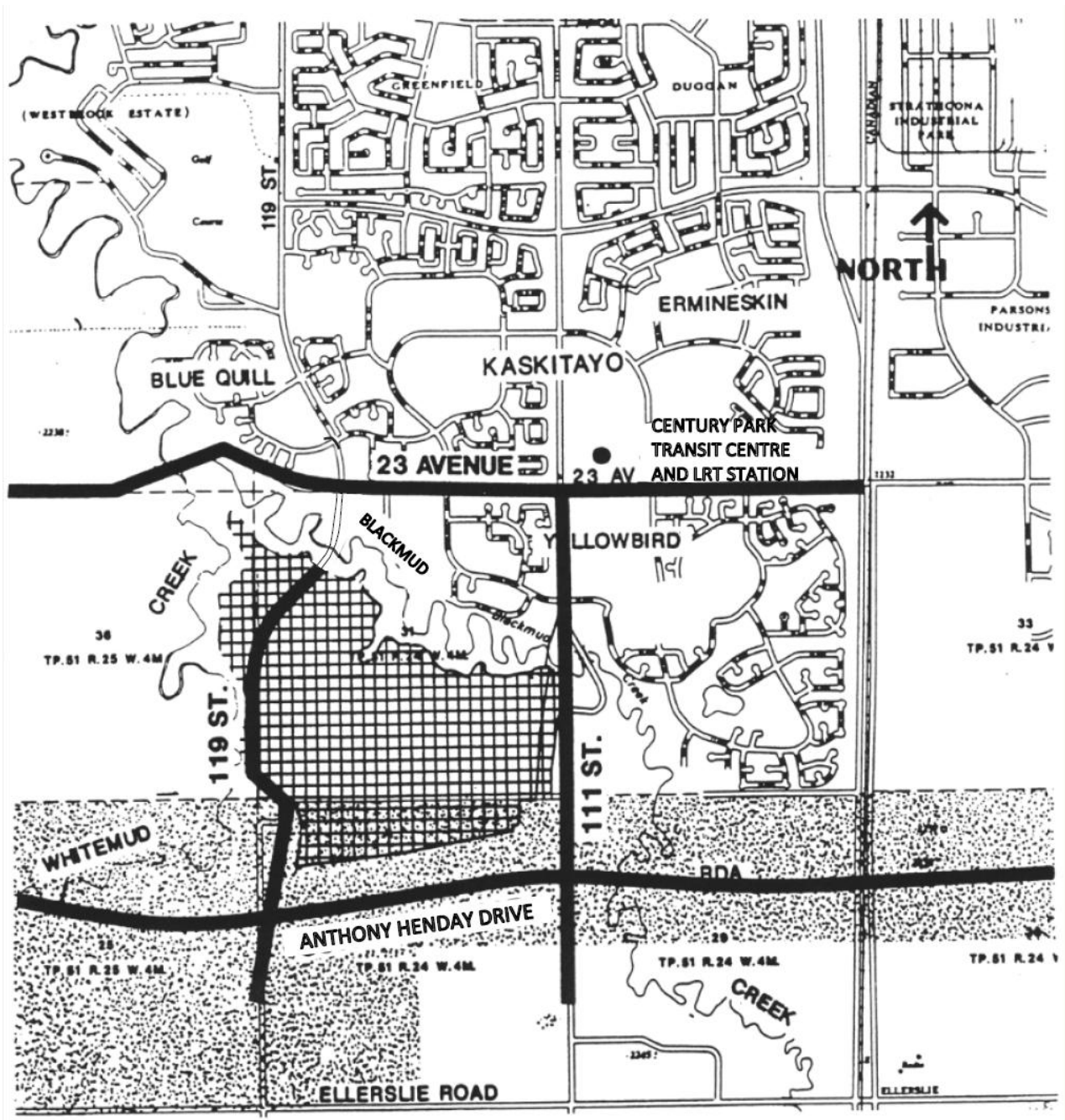
*The ultimate construction of the above mentioned roadway links, as well as the location of the Century Park Transit Centre and LRT Station will provide the Twin Brooks area with excellent access to remaining areas of the City and surrounding regional areas.*

Bylaw 16502  
September 16, 2013



## Figure 4.0 Transportation System

(Bylaw 16502, September 16, 2013)





## 3.0 POLICY FACTORS INFLUENCING THE PLAN

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### 3.1 DEVELOPMENT OBJECTIVES

#### General

The Neighbourhood Area Structure Plan provides the overall policy framework for the development of the area. The recognition of the potential role of the development area as an important segment of the urban fabric of Edmonton leads to the formulation of a number of objectives which should guide the development of the area. The area is primarily residential with *one* neighbourhood commercial centre and several multi-family housing sites planned. The area will be developed in accordance with the following development objectives:

Bylaw 10449  
July 27, 1993

#### (a) Overall Objectives

- To develop a neighbourhood that is consistent and compatible with adjacent residential areas, while being reasonably self-sufficient in terms of amenities that enhance its sense of community.
- To recognize and integrate the natural features of the area so that they complement the proposed residential character of the development.
- To provide services in accordance with City Standards.
- To provide flexibility in the planning and design of residential areas. To encourage energy efficiency in planning whenever possible.
- To allow for phased development at the earliest practical date consistent with City policies and economic considerations.

#### (b) Residential Objectives

- To provide residential building sites to meet the market demand for housing in the southwest.
- *To create an attractive residential neighbourhood to accommodate approximately 9500 people.*
- To conform to neighbourhood planning requirements utilizing good urban design principles.
- To create residential cells which are inherently flexible in their design such that change at subsequent planning stages can be undertaken dependent upon market conditions at that time.

Bylaw 11953  
February 8, 1999  
Bylaw 16502  
September 16, 2013

(c) Commercial Objectives

- To provide *one* commercial site to serve the different sectors of the neighbourhoods convenience commercial needs.

Bylaw 10449  
July 27, 1993

(d) School Objectives

- To determine and respond to the requirements of the Public and Separate School Boards with respect to school size and locations.

(e) Open Space Objectives

- To fulfill the statutory requirements of the Planning Act and to meet the requirements of Edmonton Parks and Recreation.

(f) Transportation Objectives

- To provide for safe and convenient access for vehicles and pedestrians.
- To provide an efficient circulation system for automobiles, pedestrians, bicycles and public transit within the neighbourhood to connect with major adjacent roadways.

(g) Utilities Objectives

- To incorporate the existing *gas line* right-of-way into the plan concept.
- To provide an economical servicing system and phasing sequence based on extending City services and utilities.

Amended by Editor

3.2 LAND USE REQUIREMENTS

(a) General

Basic to the concept of any Neighbourhood Area Structure Plan is the establishment of the Land Use Requirements for the area. The following provides a brief explanation of the rationale for land uses proposed within the Structure Plan.

(b) Residential

The majority of land within the Neighbourhood is designated for residential purposes. The Plan provides for the development of predominantly single family detached housing. Recognizing current consumer preference, as well as present market conditions

and the low demand for multiple family housing in south Edmonton, this neighbourhood is designed for primarily single family housing. It is anticipated that the single family areas would be *zoned* to Single Detached Residential District (RF1). *Medium Density Residential would be zoned Semi-detached Residential (RF4), Row Housing (RF5), Multi-family (DC2), and Low Rise Apartments(RA7).*

Amended by Editor  
Bylaw 11953  
February 8, 1999

(c) Commercial

The plan proposes *one* neighbourhood commercial facility, *which will provide* complimentary service. The justification for *this site* is provided later in this report. The neighbourhood commercial *site* will be developed under Direct Control District designations to ensure compatibility with surrounding land uses.

Amended by Editor  
Bylaw 10449  
July 27, 1993

(d) Reserve (Schools. Parks) Requirements

Consistent with the Planning Act and City of Edmonton's policies; it is necessary to dedicate lands for public open space and schools.

A school/park site has been located centrally within the neighbourhood. More specifically the central site will accommodate a neighbourhood park site, Separate Elementary School site and a Public Elementary School site comprising of 9.10 ha. The majority owners have agreed to share proportionately in the dedication of the central school/park site.

In addition to the school/park site, a District Park is located adjacent to the Blackmud Creek in the northwest portion of the neighbourhood to provide additional open space for the area. Further to the above, a small park has been located adjacent to the stormwater management lake while two viewpoint parks have been planned to provide access to the top-of-bank area. A further description of the park sites is contained in Section 3.3.e.

### 3.3 NEIGHBOURHOOD AREA STRUCTURE PLAN

(a) General

The development concept of the Twin Brooks area is directed to the creation of an attractive urban environment. The area will offer a range of low to medium density housing. The residential component of the Plan comprises approximately 105 hectares, of which approximately 88 percent is devoted to single family housing while 12 percent is comprised of multiple family housing (Figure 5).

(b) Residential

The overall concept is based on the premise that the neighbourhood will be comprised of primarily single family low density housing sensitive to market conditions and generally representative of those found presently in southwest Edmonton. The average densities proposed for the single family areas are in the order of 25 units/ha.

Bylaw 16502  
September 16, 2013

The proposed Land Use Statistics, according to the plan, have been provided in Appendix 2.

Medium Density Residential

Medium density residential is proposed within the neighbourhood at locations which enhance the sites attributes for medium density residential development.

Bylaw 9883  
October 9, 1991

*There are six medium density residential sites throughout the plan area, and are located such that they are oriented to the neighbourhood collector network to take advantage of a future bus system. Medium Density Residential parcels are designated as Medium Density Multi-Family, Row Housing (RF5), RA7 and Multi-family (DC2). The first site located in the north-east sector of the neighbourhood is 2.8 ha in size and is located adjacent to 12 Avenue and 111 Street. Two sites are located adjacent to each other in the south-east with a combined size of 2.54 ha, one is a multi-family site and the other is a medium density multi-family site. One medium density multi-family site is located in the north-west sector of the neighbourhood and is 2.41ha in size. It is envisioned that this site will be developed as a high quality adult community. Another medium density multi-family site is located in the south -west sector of the neighbourhood and is .387ha in size. The final site located in the south-west is 2.95 ha Row Housing site.*

Amended by Editor

Amended by Editor

Bylaw 10448  
July 27, 1993  
Bylaw 10449  
July 27, 1993  
Bylaw 16502  
September 16, 2013

This land use designation will allow for the proper integration of the *medium density* sites with adjacent single family development in that consistent landscaping, set-back requirements, building orientation, massing and roof treatments can be reviewed in detail to minimize any perceived visual problems and to ensure that there is an appropriate transition between the different housing forms.

Amended by Editor

Market conditions will ultimately dictate the specific type of multi-family development. Presently, some "retirement" type developments are contemplated.

(c) Special Study Area (Section Deleted)

Bylaw 11376  
January 7, 1997

### High Density Residential

Bylaw 16502  
September 16, 2013

*There is one parcel designated for High Density Residential in the neighbourhood. The 0.49 ha Low Rise Apartment (RA7) site is located in the south-west corner of the plan area, west of 116 Street. The site will be developed at a density not to exceed 125 units per hectare.*

Bylaw 10448  
July 27, 1993

### *(d)* Commercial

Bylaw 16502  
September 16, 2013

*One neighbourhood commercial sites are proposed for the Twin Brooks Neighbourhood. The site is located adjacent to collector arterial roadways to minimize unwanted traffic on the local streets.*

Bylaw 10449  
July 27, 1993

*The neighbourhood commercial site (0.45 ha) is proposed in the southeast sector of the neighbourhood adjacent to 111 Street. This site will provide retail service for residents in the immediate vicinity as well as for vehicular oriented traffic.*

Bylaw 10449  
July 27, 1993  
Amended by Editor

It is submitted that two sites will provide for the comprehensive retail requirements for future Twin Brook residents.

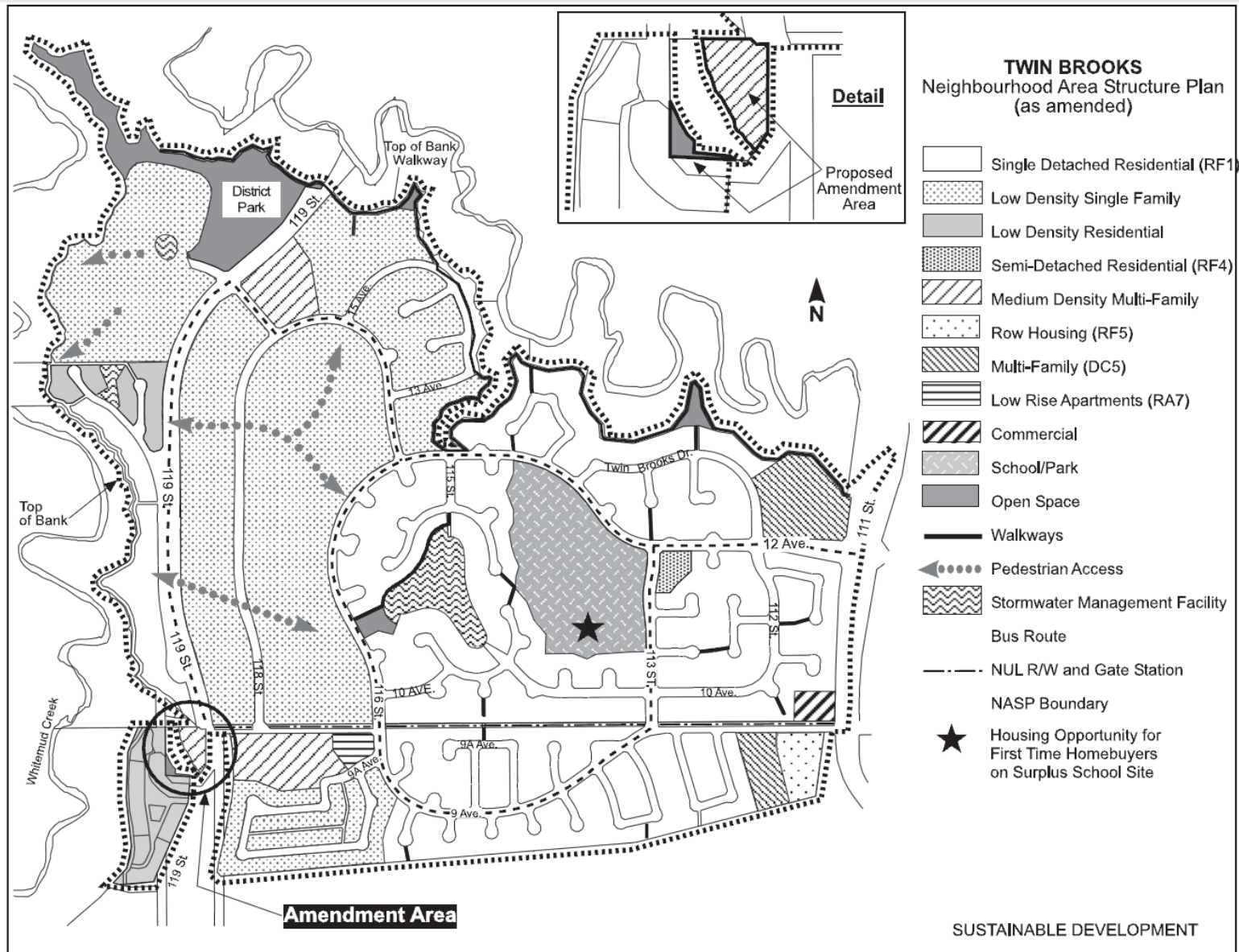
The developers, being responsive to the need for providing and maintaining a high quality residential environment will develop the two aforementioned commercial sites under Direct Control District designation as they are adjacent to residential areas. This land use designation will allow through careful architectural control and design, the development of the two commercial sites such that a high quality residential environment is maintained. More specifically, this land use designation will allow for and ensure that an appropriate transition will exist between commercial and residential areas in that the orientation and set-backs of buildings, their massing, buffering landscaping and roof treatments, etc., will be developed to minimize any perceived visual problems.

### *(e)* Park Sites/Open Space

The provision of land dedicated to open space is a prime consideration in developing a balanced neighbourhood. In attempting to meet this objective, three factors must be considered: firstly, the preservation of existing natural features; secondly, the assurance that the open space standards reflect the needs of the community and conform with regulatory requirements, and thirdly, the proportional sharing of dedicated land for the central school/park site amongst the two major owners.

## Figure 5.0 Neighbourhood Area Structure Plan

(Bylaw 16502, September 16, 2013)



The components of the open space/park system include a central park site in association with the two school sites, a district park, utility/pipeline right-of-way, two viewpoint parks and one passive park located adjacent to the stormwater management facility.

A District Park site located in the northeast portion of the neighbourhood has been located to provide the district, as a whole, in addition to the neighbourhood, with an amenity. The configuration of the District Park is 5.77 ha in size. *Upon subdivision, the City can acquire the land spur for park space through dedicated reserve and from the land exchange, ensuring that it also be held in perpetuity for public use. The boundary between the park and residential areas, to the south, is determined by two essential considerations:*

Bylaw 11376  
January 7, 1997

- a) *Ensuring that the configuration of the park would more than adequately provide for passive and informal active areas.*
- b) *Designing the residential layout in such a way as to minimize any negative impacts from activities within the park and vice versa.*

*The configuration could incorporate two connecting but distinct areas, passive and informal active, by spacing them to the northwest and east (respectively) of the residential area. The land spur is ideally suited for the passive component of the park: offering the lookout area to the west and many locations for potential interpretive sites away from the more active areas to the east. The informal active portion of the District Park is located adjacent to 119 street. Access and parking for the District Park will be separated from the residential development.*

Bylaw 11376  
January 7, 1997

As mentioned previously, a second major open space will be developed in association with the two school sites. This concept of joint use of an open space is beneficial to the school boards as land requirements for fields etc., are minimized. Correspondingly, the central location of the neighbourhood park allows for minimum walking distances for residents.

Under approved City Policy, a top-of-bank roadway is required adjacent to the river valley and ravine systems in new subdivision areas. Exceptions to this policy may occur where planning and/or engineering circumstances dictate that such a roadway is not feasible. The *Community Services* Department have determined that due to the amount of Municipal Reserve that would have to be taken between the public upland set-back and the development set-back line, they are not prepared to take a top-of-bank roadway.

Amended by Editor

*A top-of-bank walkway in accordance with the city's "Top-of-the-Bank Roadway Policy" (along with the District Park) will provide open space and public access to the ravine systems. As such, the exposure to ravines from the District Park is about 1,000 metres. A top-of-bank roadway will not be provided.*

The pipeline right-of-way in the neighbourhood will be recognized as an open space component in the area and will be developed by the adjacent owners. This area will be accessible through the development of a number of pedestrian walkways.

The Blackmud Creek Ravine borders the planning area on the north, providing natural open space frontage. In accordance with City of Edmonton policy, an open space system will be incorporated along the Blackmud Creek. Two small viewpoint parks are proposed on the Blackmud Ravine to provide access to the top-of-bank area. Those lands falling below the Blackmud Creek top-of-bank will be dedicated as environmental reserve and future top-of-bank surveys along the Whitemud Creek will dictate the future dedication of the lands which may fall below the surveyed top-of-bank as environmental reserve at the time of subdivision. In addition, a 7.5 m public upland set-back from the top-of-bank of both ravines will be provided at the time of subdivision. A 3.0 m hardsurface walk will be constructed in this set-back by the owners.

In addition to the above, a small park parcel of 0.50 ha has been proposed adjacent to the stormwater lake management facility.

(f) Transportation Utility Corridor Restricted Development Area

The Province of Alberta Transportation and Utility Corridor of the Restricted Development Area encircles the City of Edmonton and is generally understood to be a consolidated alignment opportunity for the future outer ring road and major utility lines. The restricted area varies from 800 to 1600 m in width in the vicinity of the Twin Brooks area with the greater width in the Whitemud Creek area.

The plan area has incorporated those lands identified by the Province as restricted development area release lands. This area has been incorporated within the framework of the plan through the circulation system and walkway connections from the release area which will tie into the buffer lands in the north portion of the Transportation and Utility Corridor of the Restricted Development Area.



## **4.0 ENGINEERING AND UTILITY SERVICES**

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### **4.1 UTILITY INFRASTRUCTURE**

Water distribution, sanitary sewage collection and stormwater drainage are the major components of the servicing system which must be provided to allow development of the Twin Brooks area.

#### Water Supply and Distribution

The supply point for the Twin Brooks area is an existing 300 mm stub off the existing 600 mm feedermain along 111 Street (future alignment). A primary distribution loop will be required within the area. The water supply and distribution system will be adequate to allow development of the Twin Brooks Neighbourhood.

Figure 6 - Water Distribution System shows the major elements of the water supply and distribution network required to service the Twin Brooks area.

### **4.2 SANITARY SEWAGE SYSTEM**

Sanitary sewage has to be pumped to the existing gravity sewer system north of Blackmud Creek (19 Avenue and 111 Street). The existing pump station at 12 Avenue and 111 Street is a temporary facility which was not designed to service the plan area. The existing permanent forcemain can be used for initial development but will have to be augmented with a second parallel pipe in order to provide the ultimate design capacity. There is adequate capacity in the sewers downstream of the proposed discharge point to service Twin Brooks.

The permanent sanitary pump station will be located central to the development area in order to minimize the depth of the sub-trunk sewers. Sump pumps will be used to discharge foundation draining. The station will be designed to pump the peak wet weather flow and infiltration with standby provision in the event of power failure. The forcemain will be routed along the main collector road to join the existing forcemain at 111 Street. A sub-trunk will be installed deep enough to intercept the flows from the temporary pump station allowing it to be abandoned in the future.

Figure 7 - Sanitary Sewerage System shows the major elements of the sanitary facilities required to service the Twin Brooks area.

#### 4.3 STORM DRAINAGE SYSTEM

The Twin Brooks area is bounded along the north side by Blackmud Creek, Whitemud Creek lies immediately west of the west boundary of the development area. Both creeks have deeply incised ravines which are sensitive to erosion and associated side slope instabilities. This requires a stormwater management plan which will limit the rate of discharge to the creeks and minimize the amount of disturbance of the ravines due to construction activities. Environmental Impact Assessment reports will be required at the subdivision stage with respect to discharge into the Blackmud Creek in order to determine any mitigative measures.

Figure 8 - Storm Drainage System shows the major elements of the stormwater management plan. Topographic constraints include the watershed between these two natural drainage basins which bisects the western half of the development area, and the low lying land adjacent to Blackmud Creek where overland flows will discharge over the top-of-bank. Geotechnical conditions indicate that the conventional stormwater storage facilities should not be located close to the ravine slopes.

Bylaw 10448  
July 27, 1993

Runoff from minor events from the entire drainage basin will be conveyed to a central stormwater storage facility through the storm sewer system. Excess runoff from major events will be controlled as follows:

Area A - to existing drainage course.

Area B - via roads and utility lots to the central storage facility.

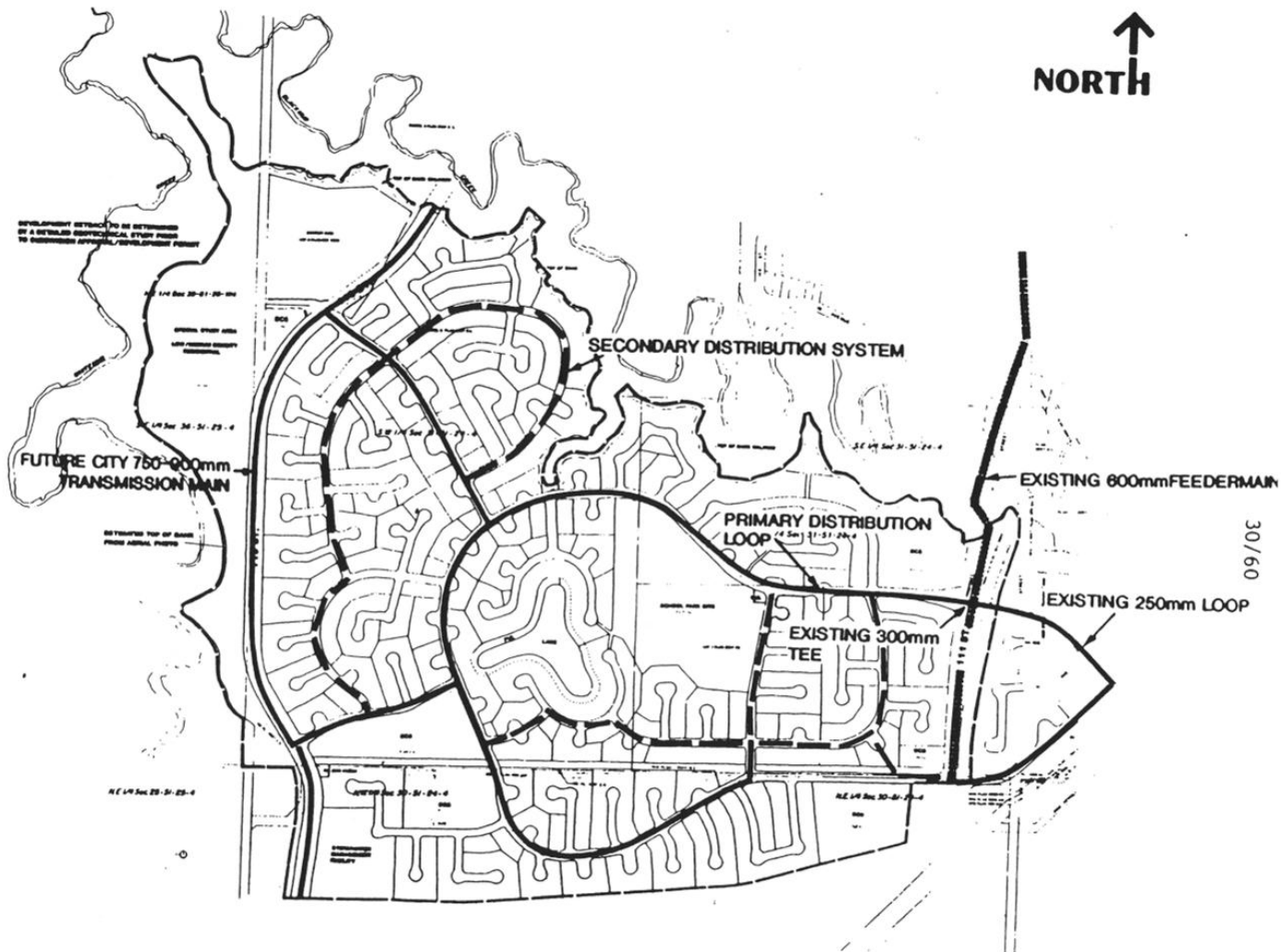
Area C - to existing ditch along existing 119 Street/ 127 Street.

Area D - to the outfall for the central storage facility.

Areas E,F,G - small local areas with sheet flow over bank at selected locations. Local grading will be designed to maximize flows *through* sewers and minimize overbank flows.

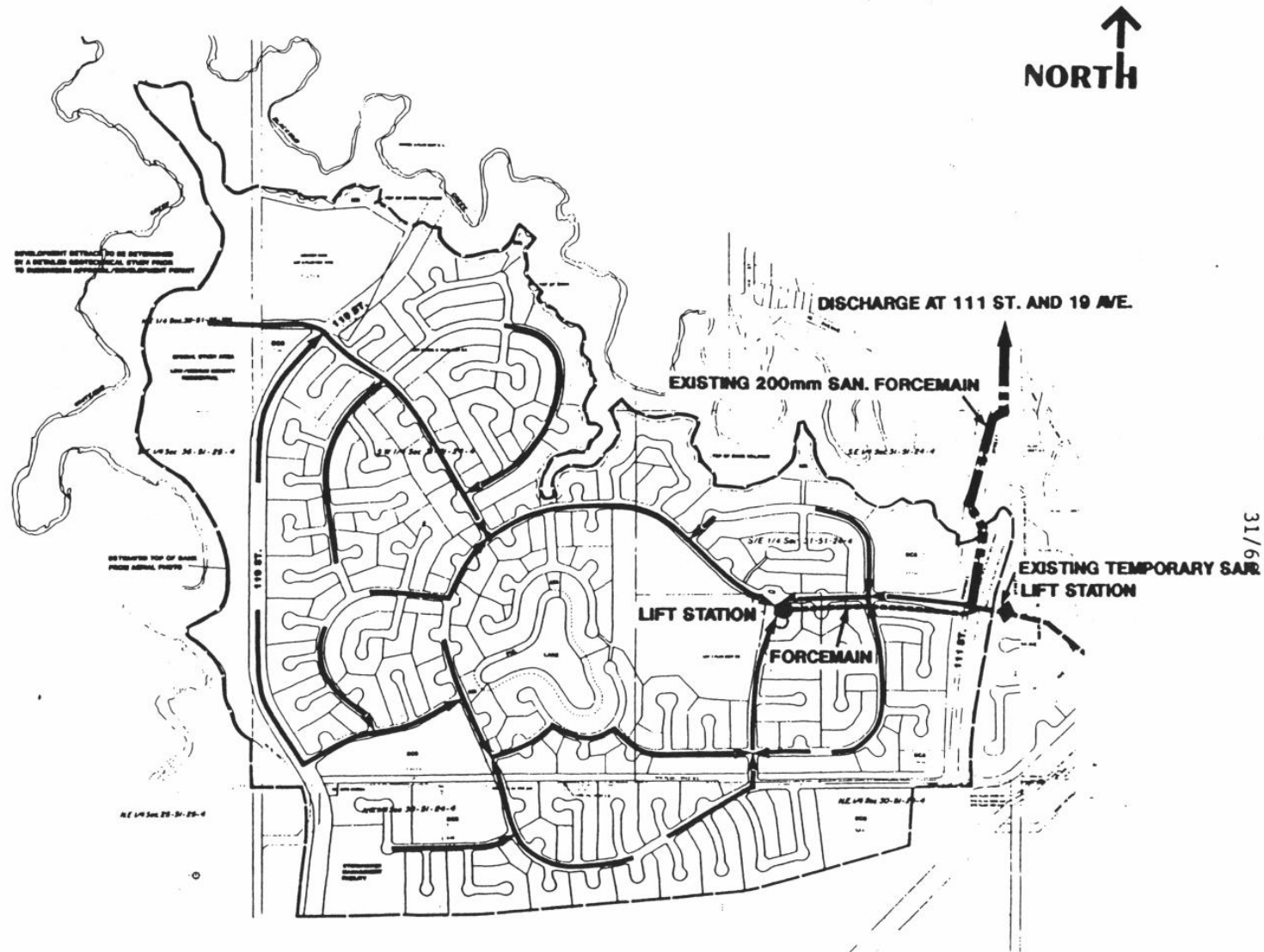
## Figure 6.0 Water Supply and Distribution

(Bylaw 9094, March 14, 1989)



## Figure 7.0 Sanitary Sewer System

(Bylaw 9094, March 14, 1989)



Total discharges to the creeks will be controlled to rates meeting the requirements of the Watershed Plan for the Whitemud Creek Basin.

The proposed storm drainage system will adequately handle the requirements of the Twin Brooks Neighbourhood.

#### 4.4 TRANSPORTATION

The circulation and access system proposed for the Twin Brooks Neighbourhood is illustrated on the development concept plan. The transportation network has been designed to meet both the internal and external requirements of the development in accordance with City Standards. The network internal to the site has been designed to maximize travel on major roadways which will be developed for through traffic. A hierarchy of roads will provide the necessary interconnections appropriate to efficiently accommodate traffic at the local, collector and arterial levels. The major roadways incorporated into the plan are those proposed by the City of Edmonton. The planning area is bounded on the east by 111 Street, which is ultimately planned to be developed as a 6 lane divided arterial adjacent to the site. From a staging perspective, the initial upgrading of 111 Street will include the construction of the first of two bridge structures over the Blackmud Creek Ravine. Scheduled for 1994, this bridge structure will be constructed to its ultimate 3 lane carrying capability width, it will only operate as a 2 lane bridge initially.

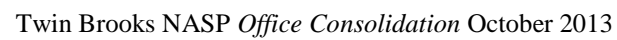
*On the south, the planning area is bounded by the Transportation and Utility Corridor of the Restricted Development Area including the Anthony Henday Drive. This facility is developed as a 6 lane divided facility operating at freeway standards. An interchange is proposed at the Anthony Henday Drive intersection with 111 Street.*

Bylaw 16502  
September 16, 2013

*The third roadway in the study area proposed by the City of Edmonton is 119<sup>th</sup> Street. This roadway is planned to be a 2 lane facility from the south side of Blackmud Creek Ravine to the Transportation and Utility Corridor. Ultimately, an interchange is planned along Anthony Henday Drive at 119 Street/135 Street to service the Twin Brooks area to the north and Heritage Valley area to the south.*

Bylaw 16502  
September 16, 2013

(Bylaw 9094, March 14, 1989)



*In order to support the construction of the 111 Street, all lands within Twin Brooks approved for subdivision by the Municipal Planning Commission will be subject to a monetary contribution toward the construction of arterial access to the neighbourhood. This contribution will be \$1,350 for each low density residential unit or lot (including single family, duplex and semi-detached) and \$850 for each multi-family unit. However, this contribution is contingent on removal of development caps for the neighbourhood. The contribution will be further administered through the development/servicing agreement for each subdivision or phase of subdivision. The payment of this contribution will fully discharge all responsibility of existing and future land owners within the Twin Brooks neighbourhood for the provision of arterial roadways accessing Twin Brooks.*

Bylaw 10449  
July 27, 1993

*The first million dollars will be used for construction of the 111 Street bridge as approved in the Capital Priorities Plan. The balance of approximately \$600,000 will be used either to partially pay for twinning 111 Street from 9 Avenue to 19 Avenue or to construct a portion of 119 Street between Ellerslie Road and 23 Avenue.*

Bylaw 10449  
July 27, 1993

*The resolution of the internal transportation concerns and access to subdivisions within the Twin Brooks Neighbourhood allows for the removal of development caps within Twin Brooks, subject to implementation of the collector and local road redesign, widening of 12 Avenue and the monetary contribution to the arterial road system as noted above.*

Bylaw 10449  
July 27, 1993

Ongoing City wide monitoring of travel demand characteristics (i.e. trip generation rates, origin/destination surveys, etc.) by the Transportation Department will result in updated information which can be used to assess the transportation implications of the Twin Brooks development staging. The results of this monitoring program may result in the establishment of revised development thresholds, reflecting any future changes in travel demand and in the prioritization of adjacent roadway improvements.

*[paragraph deleted]*

Bylaw 16502  
September 16, 2013

The public transit system will be extended to the development area in accordance with Edmonton Transit System Guidelines as demands warrant. Internal collector roadways will be designed to facilitate routings and maximize access to public transit. Future transit routes should be adapted to the proportions of trips which are expected to be generated in the Twin Brooks neighbourhood.

## **5.0 IMPLEMENTATION OF THE DEVELOPMENT**

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### **5.1 GENERAL**

The Twin Brooks Neighbourhood area can be readily serviced and easily phased. It is anticipated that this neighbourhood development area will take approximately 5-10 years to develop totally.

### **5.2 STAGING**

Twin Brooks will develop generally from the northeast to the west. Development stages in the neighbourhood will proceed according to market considerations and the timing of roadway improvements as conceptually illustrated on Figure 9.

Based on current marketing strategies, individual phases of development will be relatively small in terms of land area and number of residential lots.

The detailed staging of development within the neighbourhood area will be determined at the Subdivision Plan level

### **5.3 SUBDIVISION AND REDISTRICTING**

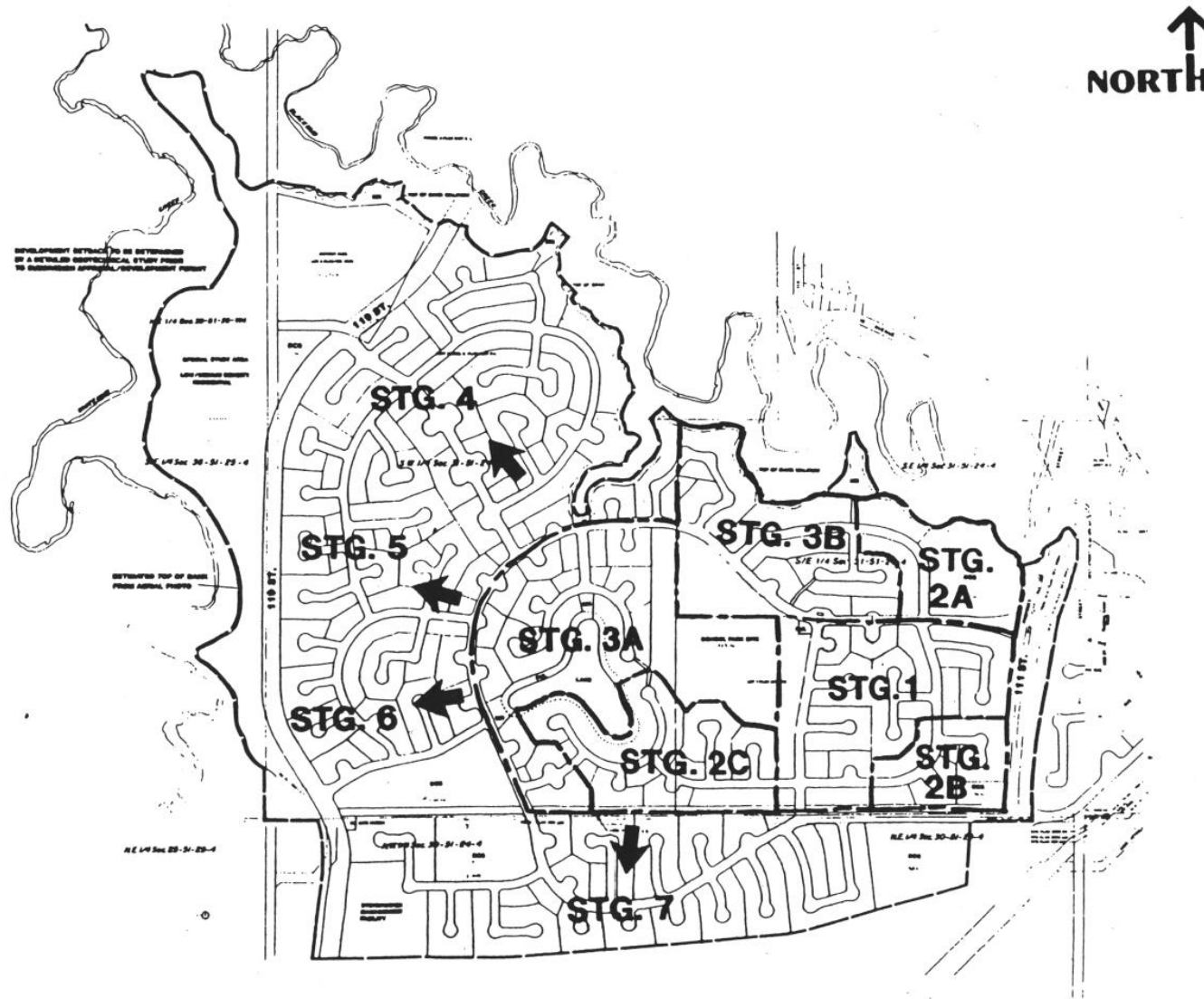
Subdivision and redistricting will occur subsequent to the adoption of the Neighbourhood Area Structure Plan bylaw in accordance with stages identified based on market conditions at that time.

Each phase of subdivision and redistricting will go through the steps of notice and public hearings as required by the Planning Act and City Policy.



## Figure 9.0 Staging

(Bylaw 9094, March 14, 1989)



# APPENDIX 1

## LAND OWNERSHIP

(Amended by Editor)

No.	Legal Description	Title Area (ha)/ Upland Area (ha)	Owner(s)	C. of T. Number
1	Part Parcel B Pl. 3027 C.L.	27.72/19.312	<i>Two Private Corporations</i>	852000657A 852000657
2	NE 1/4 Sec. 36-51-25-4 (East of W. Crk.)	32.4	<i>Private Owner</i>	752123190
3	E 1/4 Sec. 36-51-25-4 (East of W. Crk.)	32.4	<i>Private Owner</i>	106-N-279
4	SW 1/4 Sec 31-51-24-4	69.47/61.803	<i>Private Corporation (1/2 interest) Private Corporation (1/2 interest)</i>	852000657A 852000657
5	Lot 1, Plan 2227 RS	16.0/16.0	<i>Private Corporation Private Corporation</i>	852145681 852145681A
6	SE 1/4 Sec. 31-51-24-4	48.29/28.25	<i>Private Corporation.</i>	882088557
7	NW 1/4 Sec. 30R-51-24-4	59.24 2.26	Crown 862-1780	872035303
8	NE 1/4 Sec. 30R-51-24-4	63.49	Crown	882153512

## APPENDIX 2

### LAND USE STATISTICS

#### TWIN BROOKS NEIGHBOURHOOD AREA STRUCTURE PLAN PROPOSED LAND USE AND POPULATION STATISTICS BYLAW 16502

		Area (ha)			
Gross Area (Upland Area Only)		194.11			
Public Upland Setback		5.58			
NUL Right-of-Way		2.08			
Arterial Road (119 Street and 111 Street)		9.03			
Gross Developable Area (Net Hectares)		177.42			
Circulation		36.01			
Stormwater Management		3.12			
Central School Park Site		9.10			
Open Space (Privately Owned and City)		1.67			
District Park		5.77			
Neighbourhood Commercial		0.45			
Residential		121.30			
Residential Land Use					
Land Use	Area (ha)	Units/ha	Units	People/Unit	Population
Low Density Residential	110.27	25	2,757 (73.0%)	2.80	7720
Medium Density Residential (Row Housing)	1.38	45	62 (1.7%)	2.80	174
Medium Density Residential (Multi-Family)	9.01	90	811 (21.5%)	1.80	1,460
High Density Residential	0.64	225	144 (3.8%)	1.50	216
Total	121.30		3,769 (100%)		9,570
Population Per Net Hectare					
		54 ppnha			
Units Per Net Residential Hectare					
		31 upnrha			