

Haddow Neighbourhood Area Structure Plan

Office Consolidation June 2021

Prepared by:

*Development Services
Urban Planning and Economy
City of Edmonton*

Bylaw 10452, was adopted by Council in July 1993. In June 2021, this document was consolidated by virtue of the incorporation of the following bylaws:

- Bylaw 10452* Approved July 22, 1993 (to adopt the Haddow Neighbourhood Area Structure Plan)
- Bylaw 11587* Approved September 15, 1997 (to change the pattern of land designated Stormwater Management Facility and Low Density Residential)
- Bylaw 12089* Approved July 22, 1999 (to modify three land use components for the southern portion of the Plan area)
- Bylaw 12279* Approved April 3, 2000 (to relocate a stormwater management facility and to define an area of environment reserve in the northwest quadrant of the plan area)
- Bylaw 12576* Approved May 30, 2001 (to establish low density residential in land that was previously part of the Solicitor General Staff College but has now been identified as surplus)
- Bylaw 14442* 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)
- Bylaw 18568* Approved November 5, 2018 (Administrative amendment to adjust the land use in neighbourhood plans to align with the proposed boundary changes to the North Saskatchewan River Valley Area Redevelopment Plan (NSRV ARP) and North Saskatchewan River Valley and Ravine System Overlay)
- Bylaw 19725* Approved June 8, 2021 (PLAN REPEALED)

Editor's Note:

This is an office consolidation edition of the Haddow Neighbourhood Area Structure Plan, Bylaw, as approved by City Council on July 22, 1993. This edition contains all amendments and additions to Bylaw 10452.

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.

City of Edmonton
Urban Planning and Economy

Terwillegar Heights

Haddow

Neighbourhood Area Structure Plan
City of Edmonton

UMA

UMA Engineering Ltd.

June, 1993

**HADDOW
NEIGHBOURHOOD AREA STRUCTURE PLAN**

CITY OF EDMONTON

TERWILLEGAR HEIGHTS

Prepared for:

**Three Private Corporations
(Amended by Editor)**

by:

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June 1993

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(Amended by Editor)

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1.0 BACKGROUND INFORMATION

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 PURPOSE

The purpose of this document is to provide a Neighbourhood Area Structure Plan for the lands identified as Neighbourhood 1 within the Terwillegar Heights Servicing Concept Design Brief. It outlines the nature of the site, the character of the planned neighbourhood and its compliance with pertinent planning documents.

1.2 STATUTORY CONTEXT

As defined in Section 64 (2) of the Planning Act (R.S.A. 1980), an Area Structure Plan describes the sequence of development proposed for an area, sets out the land uses and densities, describes the sequence of development and outlines the general location of major transportation routes and public utilities.

The Haddow Neighbourhood Area Structure Plan has been prepared in conformity with *the enabling legislation that was in place at the time of this NASP approval:*

Amended by Editor

- the Province of Alberta Planning Act, Section 64,
- the City of Edmonton General Municipal Plan, Bylaw 9076,
- the Terwillegar Heights Servicing Concept Design Brief (SCDB),
- approved by resolution of Council on September 14, 1992, and
- relevant Council and Municipal Planning Commission policies and guidelines.

Bylaw 18568 – Approved November 5, 2018

1.3 LANDOWNER CONSENSUS

The plan has been prepared with the knowledge and support of all landowners within the subject area including *three private corporations*, Alberta Public Works, Supply and Services and the City of Edmonton.

Amended by Editor

1.4 LOCATION

Haddow is located in the southwestern portion of the City of Edmonton, to the south of the developed residential neighbourhoods of Henderson Estates and Falconer Heights and between Terwillegar Drive and the North Saskatchewan River (*Figure 1*). Its southern and western boundary is defined by the lands required for the outer ring road and transportation and utility corridor.

Amended by Editor

The neighbourhood is located in the northwestern part of the area covered by the Terwillegar Heights Servicing Concept Design Brief. It has been designated as the first stage of development by the brief (*Figure 2*).

Amended by Editor

Figure 1.0 City Context (Bylaw 10452, July 22, 1993)

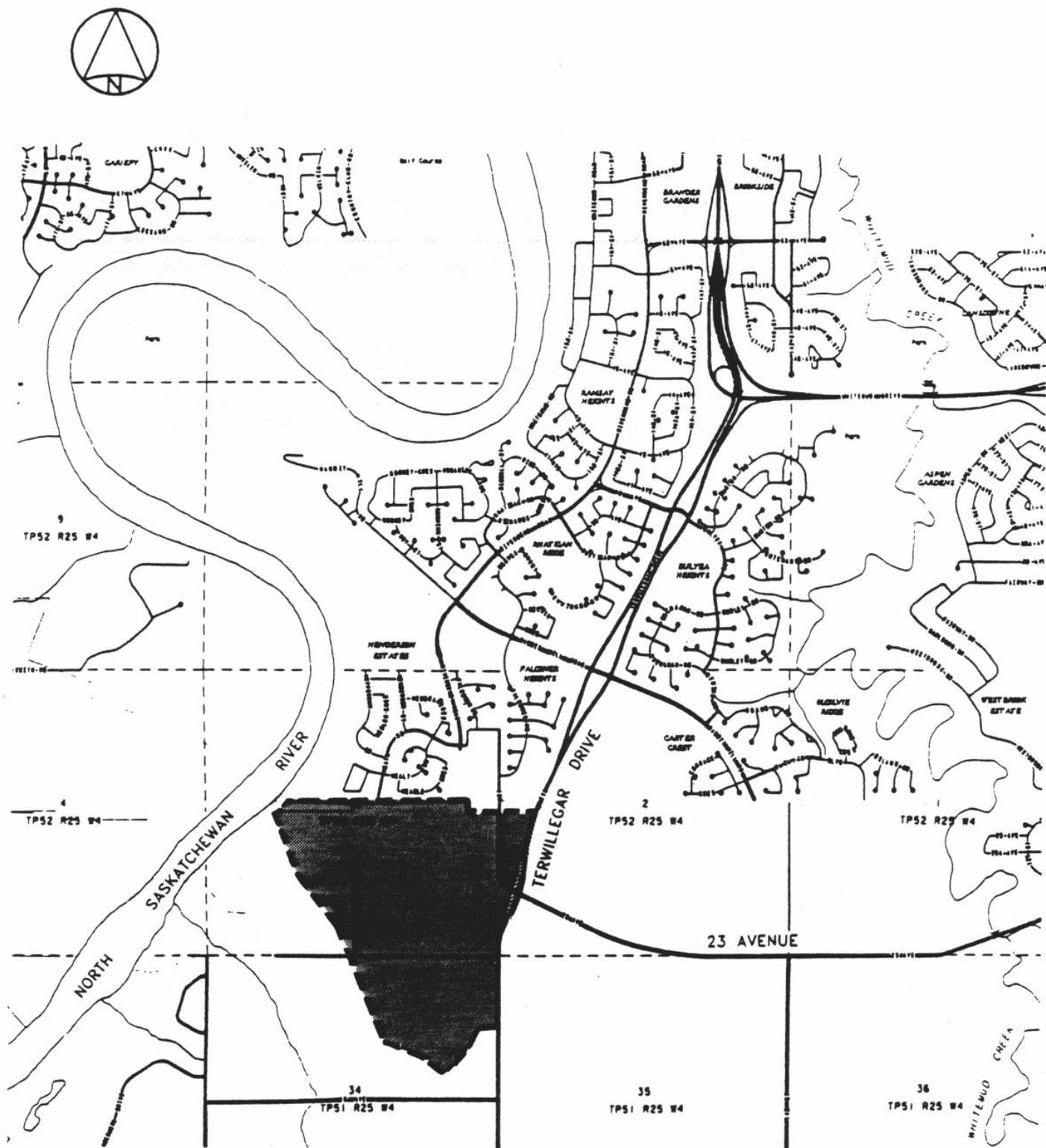
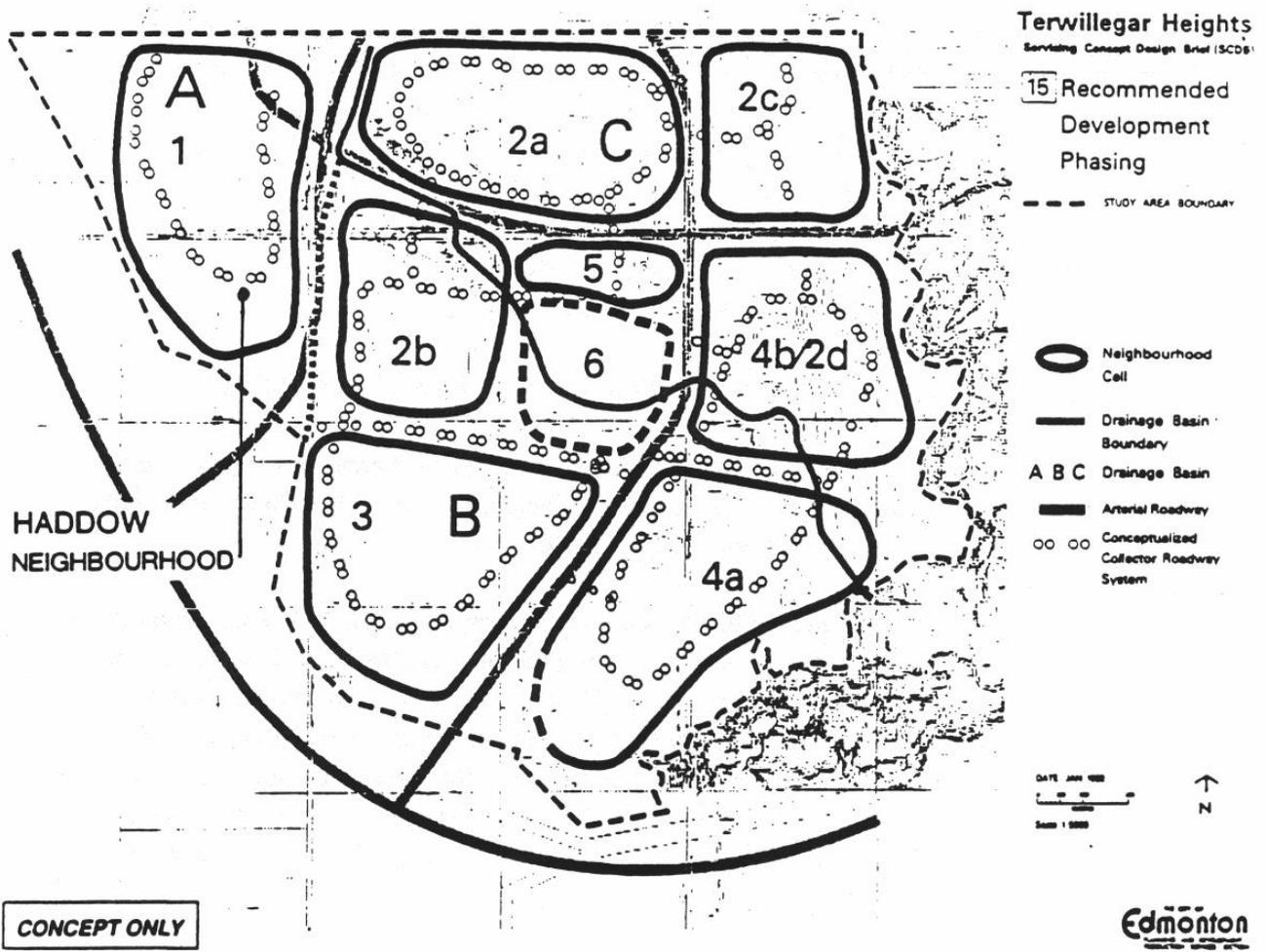


Figure 2.0 Servicing Concept Design Brief (Bylaw 10452, July 22, 1993)



2.0 SITE ANALYSIS

2.1 PLAN AREA

The Neighbourhood Area Structure Plan covers an area of 134.80 ha including:

- all of S.E. 3-52-25 W4
- a portion of S.W. and N½ 3-52-25 W4
- a portion of S. W. 2-52-25 W4
- a portion of N.E. 34-51-25 W4
- a portion of N.W. 34-51-25 W4.

The landholdings are further defined on *Figure 3* and *Table 1*.

Amended by Editor

The western and southern boundary of the plan area are irregular due to the definition of right-of-way requirements for the Outer Ring Road/ Transportation and Utility Corridor.

Crown lands within the southwest quarter of Section 3 have been divided into *three* distinct sections for the purposes of this plan. The northerly section of Crown land, comprising *of 7.49 ha*, includes the buildings and grounds of the Solicitor General Staff College. No change of use is proposed for this area or for the adjacent *utility* right-of-way. However, because these areas were included in the Terwillegar Heights Servicing Concept Design Brief and to ensure continuous statutory plan coverage, they are included in the plan.

Amended by Editor

Amended by Editor
Bylaw 12576
May 30, 2001

The most westerly 7.04 ha has been dedicated as environmental reserve.

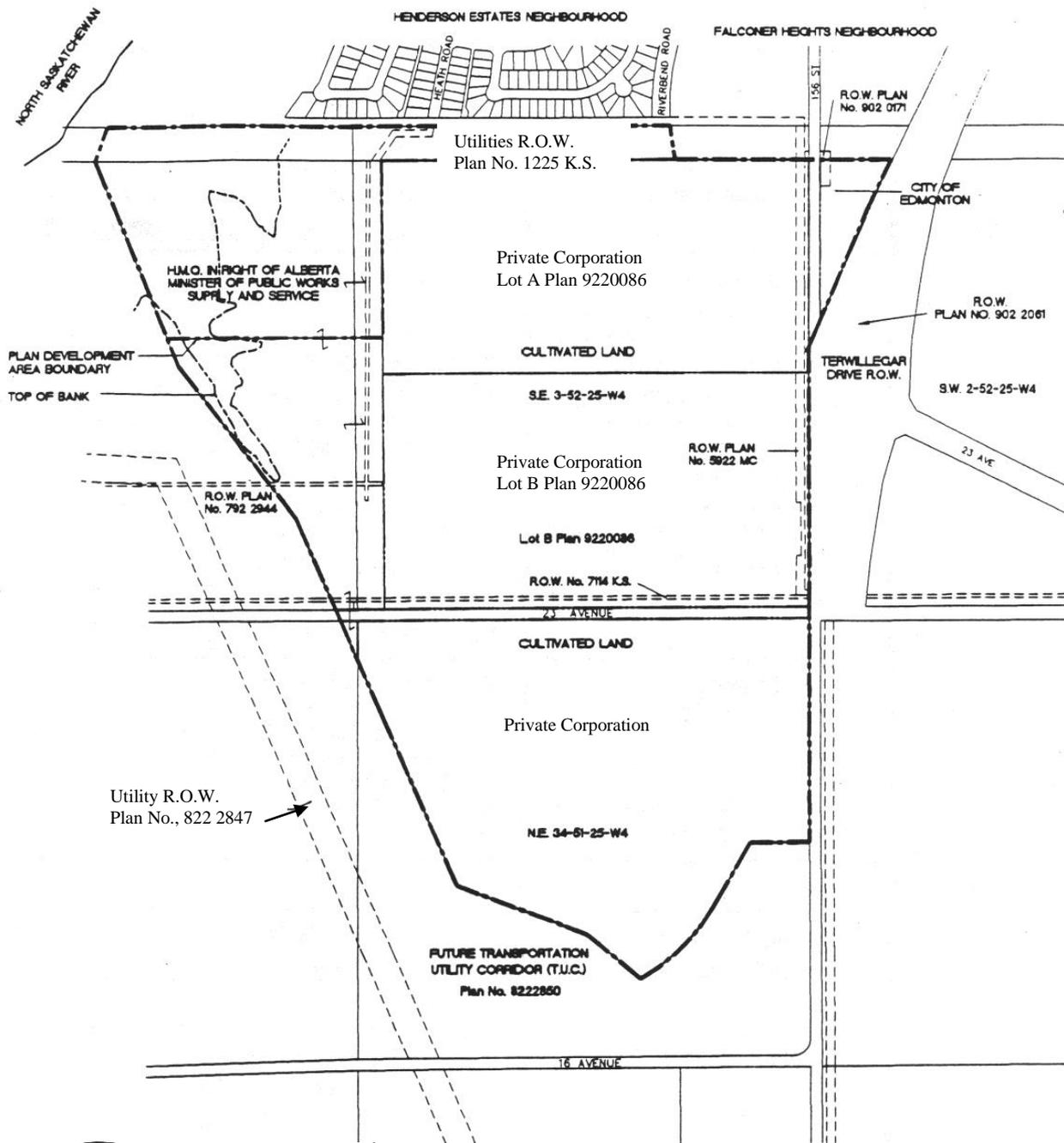
Bylaw 12279
April 3, 2000

The most southerly 11.28 ha has been declared surplus to the functioning of the Solicitor General Staff College and available for alternate use. This area is thus included within the Gross Developable Area of the Neighbourhood Area Structure Plan.

The Gross Developable Area is *107.98 ha*.

Bylaw 12576
May 30, 2001

Figure 3.0 Land Ownership* (Bylaw 10452, July 22, 1993)



SCALE 1 : 10,000

*Amended by Editor

TABLE 1
HADDOW NEIGHBOURHOOD AREA STRUCTURE PLAN
LAND OWNERSHIP –
Bylaw 10452, July 22, 1993
(Amended by Editor)

Land Owner	Property	Area (ha)
<i>Private Corporation</i>	Pt. of N.E. 34-51-25 W4	37.82
<i>2 Private Corporations</i>	Lot B, Plan 9220086 (Pt. of S.E. 3-52-25-W4)	32.09
<i>Private Corporation</i>	Lot A, Plan 9220086 (Pt. of S.E. 3-52-25-W4)	29.13
H.M.Q. in Right of the Minister of Public Works, Supply and Services (Solicitor General Staff College)	Pt. of most westerly 165 ft of S.E. 3 and pt. of S.W. 3-52-25-W4 and pt. of N.W. 34-51-25-W4	11.28
City of Edmonton	Pt. of S.W. 2-52-25 W4	1.77
	23rd Avenue Right-of-Way	1.69
	156 St. Right-of-Way	0.63
PLAN DEVELOPMENT AREA		114.41
Undevelopable Portion of Solicitor General Staff College	Pt. of most westerly 165 ft of S.E. 3 and pt. of S.W. 3-52-25-W4	14.19
<i>Private Corporation</i>	Pt. of Utility Right-of-Way Plan No. 1225 KS and pt. of 156 St.	6.20
GROSS PLAN AREA		134.80

2.2 NATURAL CONDITIONS

Topography and Drainage

Most of the site lies on the upland located between the North Saskatchewan River 400 m to the west and Whitemud Creek 2.5 km to the east. The upland has an overall gentle slope from east to west toward the valley of the North Saskatchewan River (*Figure 4*). Within the upland area, overall relief is 10 m, creating average gradients of 1.5% to 3%.

Amended by Editor

Natural overland drainage flows to the northwest.

Steeper slopes will be excluded from development in accordance with the "top-of-bank" line established in the North Saskatchewan River Area Redevelopment Plan and the criteria for establishing environmental reserve under the City of Edmonton's Subdivision Regulations.

The ravine on the developable part of the Solicitor General Staff College lands is the only drainage channel on the site.

There are no wetlands on the site.

Soils and Surficial Geology

The soils are Class 1 or silty clay loams formed on lacustrine deposits overlying glacial till which in turn lies over bedrock. These soils are similar to those in most other newly developing areas in the southwest and southeast parts of the City.

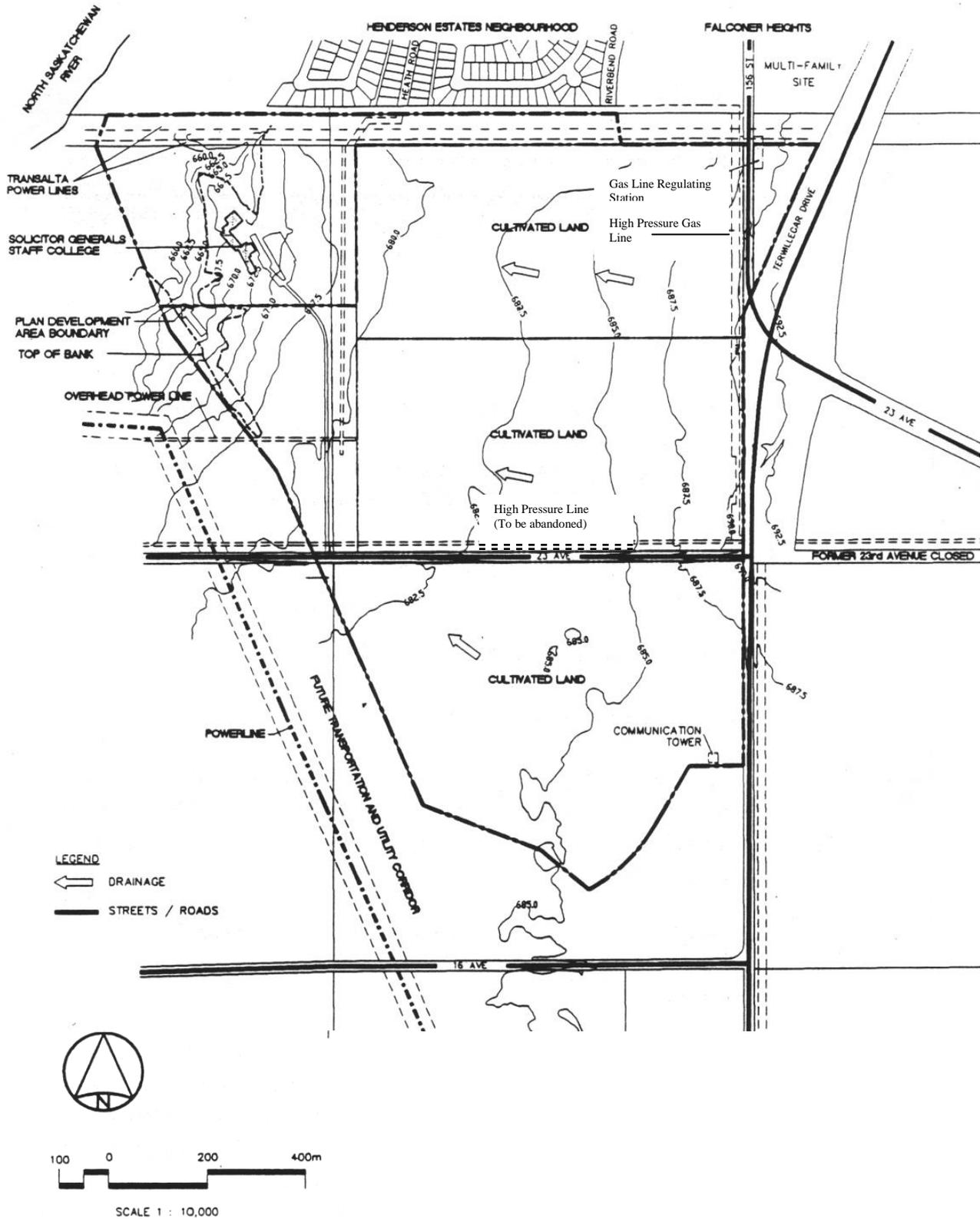
Topsoil will be re-used on site during and following construction.

Natural Areas

The lands have been cleared and cultivated for agricultural use for many years. Tree cover is limited to natural aspen groves along the bank of the North Saskatchewan River, two planted shelterbelts and remnant wild growth along 23rd Avenue road allowance. In keeping with the City's objective to catalogue natural areas on the table lands, UMA's landscape architects undertook a detailed evaluation of the site (*Figure 5* and Appendix A).

Amended by Editor

Figure 4.0 Existing Development* (Bylaw 10452, July 22, 1993)



*Amended by Editor

Units A, B and C (shelterbelts) are in poor condition and over-mature. As such, there is little justification for retaining these areas in the opinion of the landscape architects.

Unit D is a shelterbelt of mature Colorado Spruce and Manitoba Maple. It is the landscape architect's opinion that the stand is in good condition and has the potential to form an attractive landscape feature.

Unit E comprises dispersed planted Colorado Spruce and Manitoba Maple flanking the approach road to the Solicitor General Staff College. The landscape architect's opinion is that, because of their dispersed pattern, it will be difficult to retain them in situ. However, it may be possible to relocate them to strategic locations throughout the neighbourhood, subject to further analysis at the time of subdivision.

Unit F, a relatively undisturbed aspen grove along the river bank, appears to be in good condition. In the opinion of the landscape architects, the stand provides a visual buffer between the potential residential development to the east and the power line and future freeway to the west. Much of the area is below the top-of-bank and will be provided as future Environmental Reserve. *Bylaw 12279 re-designated a substantial portion of the Solicitor General Staff College lands, particularly the area below the top-of-bank line, as environmental reserve.*

Amended by Editor

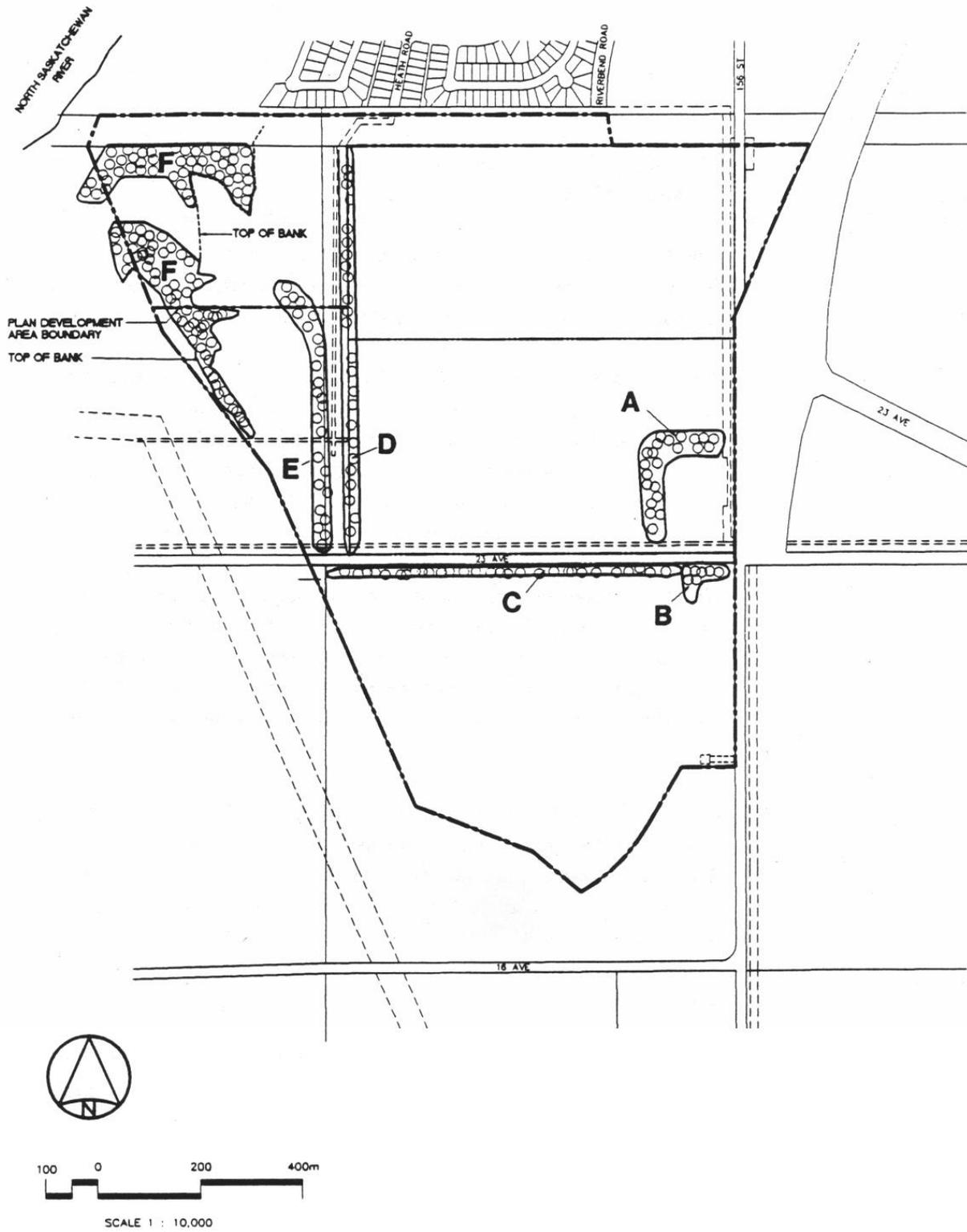
Bylaw 12279
April 3, 2000

No other features that would be negatively impacted by future development were identified. The sensitive tree areas noted above as units D, E, F on *Figure 5* will be carefully maintained during construction and incorporated within the subdivision pattern where feasible. Those that have to be moved, for road access, etc., will be relocated to suitable areas where possible.

Heritage Resources

Heritage Resources Branch, Alberta Culture, has confirmed that there are no significant archaeological, paleontological or other significant heritage resource on site.

Figure 5.0 Woodland Analysis (Bylaw 10452, July 22, 1993)



2.3 EXISTING LAND USES

Surrounding Area

Haddow neighbourhood lies immediately to the south of the developed Henderson Estates and Falconer Heights neighbourhoods. This current pattern of development fixes two access points to the north. Riverbend Road on the east side of Henderson Estates is a collector street separating these two neighbourhoods. The road right-of-way currently extends south to the northern limit of the *utility* right-of-way.

Amended by Editor

A second access point from the north is created by Heath Road where it abuts the northern limit of the *utility* right-of-way.

Amended by Editor

According to the Terwillegar Heights Servicing Concept Design Brief, Riverbend Road will be extended to the south and east through Haddow to meet 23rd Avenue at Terwillegar Drive. In addition, 156th Street, the current access from the north, will be closed as development proceeds.

Three power lines are located within a 61 m right-of-way along the northern limit of the lands.

The eastern and southwestern limits of the neighbourhood are defined by the right-of-way requirements for two major transportation routes. Terwillegar Drive, to the east, will ultimately be upgraded from a two-lane street to a six-lane freeway, with the current intersection at 23rd Avenue developed to a grade-separated interchange.

The southwestern limit of the site is defined by the right-of-way for the Transportation and Utility Corridor, accommodating a future Ring Road and existing high voltage power line.

The North Saskatchewan River lies just west of the Solicitor General's property. While the lands do not directly abut the river, its location near the river will add an amenity value to the neighbourhood.

On-Site Conditions

The current road network includes 156th Street and 23rd Avenue. These are part of the original sectional survey and have been developed as two-lane paved roads with a rural cross-section. These roads will become redundant as urban development occurs.

The buildings and grounds of the Solicitor General Staff College, a former religious seminary, constitute the major development on the site. Access to the facility is by a lengthy driveway leading north from 23rd Avenue.

The existing utility lines were considered in planning the neighbourhood. A 12" high pressure gas line is located within a 15 m easement west of and parallel to 156th Street north of 23rd Avenue. The relocation of the line by the utility company is recommended to facilitate an efficient land use pattern.

A 2" high pressure natural gas line located north of and parallel to 23rd Avenue will be abandoned as development occurs.

A 3-phase power line is located on the Solicitor General's property, running south from the built up area and then west across the river. It is recommended that this line be relocated as development occurs to facilitate an efficient land use pattern.

3.0 PLANNING CONSIDERATIONS

3.1 OBJECTIVE

The objective of the plan is to continue the success of the existing residential communities of Henderson Estates and Bulyea Heights, recognizing the planning and design policies of the City of Edmonton.

3.2 TERWILLEGAR HEIGHTS SERVICING CONCEPT DESIGN BRIEF

The planning principles established within the Terwillegar Heights Servicing Concept Design Brief have been a major consideration in the preparation of this Structure Plan. The brief, which was adopted by resolution of Council on September 14, 1992, establishes a development program and development criteria which have been incorporated into the plan.

For simplicity, the relevant sections of the Servicing Concept Design Brief are presented on *Table 2*, indicating whether the considerations have been incorporated into the plan or whether they require further exploration.

Amended by Editor

Table 2
HADDOW NASP:
RESPONSE TO TERWILLEGAR HEIGHTS SCDB

Section	Planning Consideration	Incorporated	More Review Needed
Pt. II Sec. 1 Roadways and Transportation			
	extension of Riverbend Road to 23rd Avenue at Terwillegar Drive	√	
	two access points from collector system to Riverbend Road	√	
	collector access to Terwillegar Drive approximately at 21st Ave	√	
	collector system to accommodate 5,000 vehicles per day (vpd) or less	√	
	all properties to be within 400 m of collector to provide transit service	√ with minor exception	
	walkway links to the north and east	√	

Table 2 - Continued
HADDOW NASP:
RESPONSE TO TERWILLEGAR HEIGHTS SCDB
 Amended by Bylaw 12089, July 22, 1999

Section	Planning Consideration	Incorporated	More Review Needed
Part II, Sec. 2 Stormwater Management			
	no flow to North Saskatchewan River	√	
	no flow from Heritage Valley	√	
	stormwater facility sizes for neighbourhood only, based on preliminary calculations: 4.0 ha at NWL, 5.6 ha at HWL, for wet pond	√	
	possibility of lake/dry pond combinations with school/park sites	√	
Part III, Sec. 1 Schools and Parks / Open Space/ Natural Environment			
	public elementary school site (2.03 ha)	√	
	separate elementary school site (4.45 ha)	√	
	neighbourhood park (2.33 ha) located between schools	√	
	guidelines for frontage and depth of school/park	√	
	"viewpoint" park for storm water facilities (.5 ha)	√	

**Table 2 - Continued
HADDOW NASP:
RESPONSE TO TERWILLEGAR HEIGHTS SCDB**

Section	Planning Consideration	Incorporated	More Review Needed
	contact with Alberta Culture	√	
	fire hall within neighbourhood	√	
	proposed South Ring Water Line	√	
Part IV, Sec. 1 Design Principles			
	central focus to each neighbourhood	√	
	innovation to be encouraged: modified rights of way, linear parks, boulevard services, reduced setbacks, and modified grid	√	
	ratio of single to multiple unit dwellings to be in the range of 65 to 85% single unit dwellings, 15 to 35% multiple unit dwellings	√	

4.0 THE PLAN

4.1 LAND USE CONCEPT

The major patterns of land use and circulation for the neighbourhood are shown on *Figure 6*. It will have a gross developable area of 107.98 ha and a potential population of 4,380 people based on typical development densities. The following sections present specific aspects of the neighbourhood plan.

Amended by Editor
Bylaw 12576
May 30, 2001

4.2 CIRCULATION

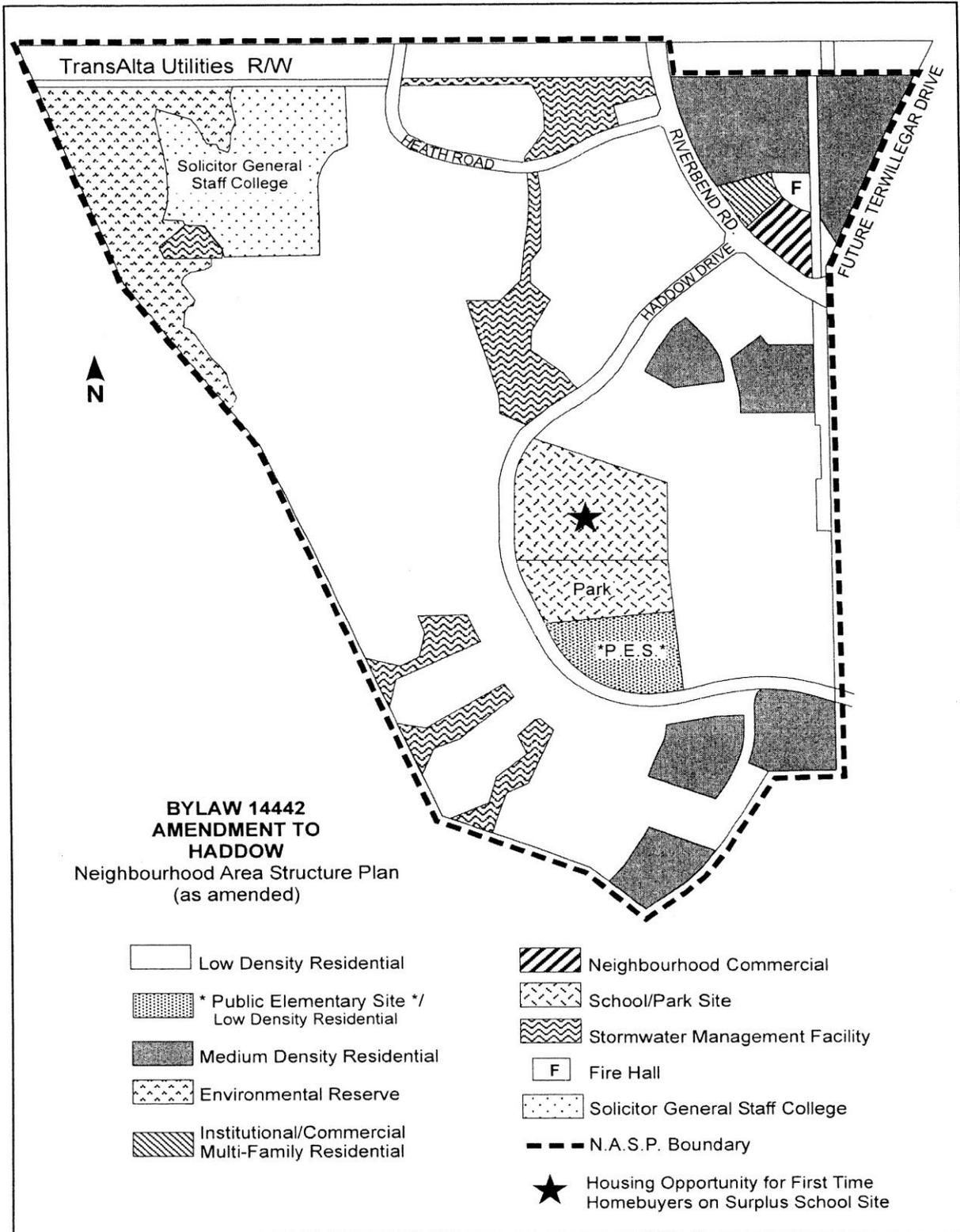
Major access to the neighbourhood will be from Terwillegar Drive. Access will also be provided from communities to the north by Riverbend Road. Terwillegar Drive and 23rd Avenue will constitute the major roadway links between Haddow and destinations within the City of Edmonton.

An internal loop collector is proposed to run through the centre of the neighbourhood connecting Riverbend Road with the southerly extension of Terwillegar Drive.

Heath Road is proposed to be extended south from Henderson Estates to intersect with Riverbend Road. Thus there would be two points of access from Riverbend Road to the interior of the neighbourhood as stipulated within the Servicing Concept Design Brief. There will be no direct access to Riverbend Road from abutting residential properties. Riverbend Road will be completed through Henderson Estates to Haddow prior to connection of Heath Road from Haddow. Construction sequencing in this manner will minimize the impact of traffic on the interior portion of Henderson Estates.

The current access to the Solicitor General Staff College will be maintained until the lands are developed. The plan provides for two access points to the property.

Figure 6.0 Land Use Concept* (Bylaw 14442, December 12, 2006)



*Amended by Editor

The collector street system could be used for transit routing. Ninety-five per cent of residential properties will lie within 400 m of transit routes. The minor exception is the most westerly portion of the neighbourhood which will be within 500 m.

4.3 LAND USE

The overall pattern of land use responds to the site, to market conditions and to civic policy. An illustrative concept showing local streets is shown on *Figure 7*. A pedestrian/bikeway circulation system is also indicated on the plan.

Amended by Editor

It should be noted that the location of local streets and block lines on this and subsequent plans, as well as the pedestrian/bikeway system, are conceptual only and are subject to revision during the subdivision of the neighbourhood.

The neighbourhood comprises two distinct areas created by the extension of Riverbend Road to 23rd Avenue. For purposes of description, they are referred to as the residential area and the "Village Centre".

Residential Area

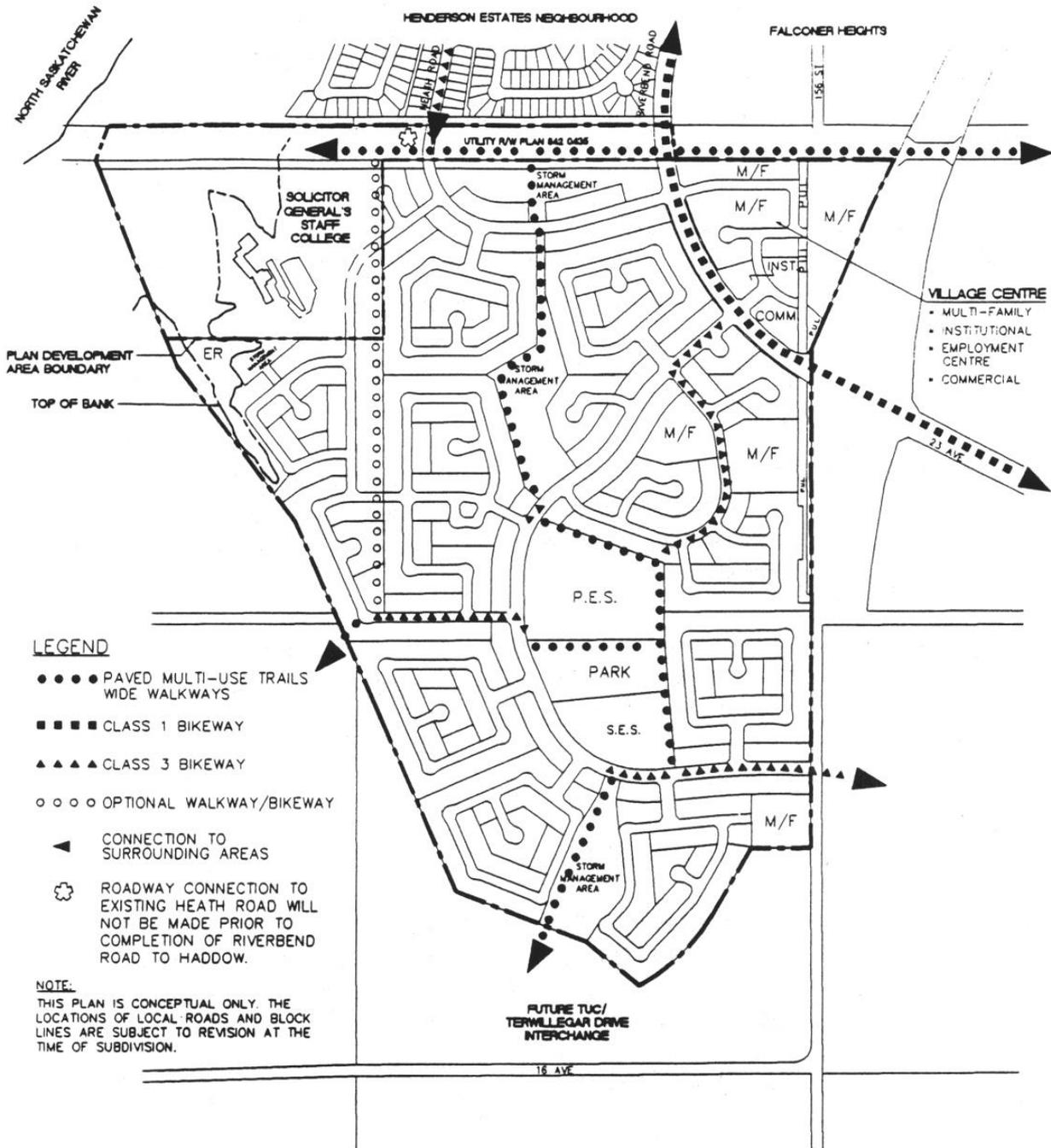
Residential Land Use

Low density residential development will be predominantly south and west of Riverbend Road. Single family units will be the most common housing form. Throughout the neighbourhood, houses will be grouped within distinct modules defined by the local street system. The purpose of this arrangement is to create a sense of local identity and to facilitate orderly stages of development which reflect servicing and marketing requirements.

Five parcels of medium density multi-family residential development have been located to the east of the main collector. It is anticipated that these parcels will be developed for townhouse dwellings compatible with the adjacent single family development.

Bylaw 12089
July 22, 1999

Figure 7.0 Illustrative Concept (Bylaw 10452, July 22, 1993)



LEGEND

- PAVED MULTI-USE TRAILS WIDE WALKWAYS
- ■ ■ ■ CLASS 1 BIKEWAY
- ▲ ▲ ▲ ▲ CLASS 3 BIKEWAY
- ○ ○ ○ OPTIONAL WALKWAY/BIKEWAY
- ◀ CONNECTION TO SURROUNDING AREAS
- ⊕ ROADWAY CONNECTION TO EXISTING HEATH ROAD WILL NOT BE MADE PRIOR TO COMPLETION OF RIVERBEND ROAD TO HADDOW.

NOTE:

THIS PLAN IS CONCEPTUAL ONLY. THE LOCATIONS OF LOCAL ROADS AND BLOCK LINES ARE SUBJECT TO REVISION AT THE TIME OF SUBDIVISION.



SCALE 1 : 10,000

All residential developments will be built to a high standard and be compatible to the surrounding areas. Landscaping will also be finished to a high quality, with the use of grass, shrubs and trees to enhance the living spaces that are created.

School Sites, Parks and Open Space

The focus of the neighbourhood will be the centralized park and school areas to be dedicated as municipal reserve. Two school sites have been designated, separated by the neighbourhood park. Parcel sizes correspond with those stipulated by the Servicing Concept Design Brief. Both school sites and the park are bounded on one side by the collector road to afford maximum access and visibility. *The public school site has been assigned an “alternate use” land use designation. The Public School Board has indicated that they may be in a position in the future to declare their school site surplus. If the site is declared surplus the primary use of the site will revert to a secondary use, which in this case will be low density residential.*

Bylaw 12089
July 22, 1999

The stormwater management system will complement the open space system. This system, along with the centralized schools and park sites, will create a continuous north-south open space corridor through the heart of the neighbourhood. A small site is required to serve the lower lands in the vicinity of the west central part of the plan.

The *utility* right-of-way is considered undevelopable land and its present use as an open space corridor will continue. It will be finished in accordance with City and utility company policies. This will include use of natural minimum maintenance vegetation. It also has the longer term potential to provide access to the river and the ribbon of green open space system.

Amended by Editor

The pedestrian/bikeway circulation system includes a Class 1 bikeway route along Riverbend Road, that will interconnect with other development areas. Class 3 bikeways will also interconnect residential areas as extensions of future multi-purpose trails or wide walkways. The circulation focus is through the central open space system and leading to the *utility* right-of-way that will provide access to the river and the future development areas to the east. A potential walkway along the treed shelterbelt on the Solicitor General's lands will also provide a loop interconnection with the central route and give access to the transportation and utility corridor lands. Future adjustments will be made to the system to reflect the actual layouts of roads and land uses to allow for proper geometric design and staging.

Amended by Editor

Village Centre

Development Concept

The concept of a "village centre" will apply to the triangular area created by the extension of Riverbend Road across the northeastern corner of the neighbourhood. This area presents some unique development challenges and opportunities, due to its separation from the balance of the neighbourhood. A distinct identity will be created by a group of land uses providing services to the local neighbourhood, surrounded by a medium density residential area.

The concept will be reinforced through architectural and landscape treatment of all sites and buildings.

The illustrative concept (*Figure 7*) shows one potential development scheme for the village centre. However, it is essential that flexibility be maintained both in the appropriate land use and circulation pattern and in the phasing of development, within the general framework of the development concept as outlined in this section. This flexibility is needed because of the long term nature of certain development components, changing resident needs and evolving market conditions.

Amended by Editor

The land use components of the village centre would include commercial, institutional, residential and utility uses as more fully described below.

Commercial Site

A .74 ha commercial site is proposed at the northeast intersection of Riverbend Road and the major access into the village centre.

Bylaw 12089
July 22, 1999

The site would comprise at least three components:

- typical convenience commercial uses
- commercial retail units (C.R.U.)
- local non-retail commercial employment opportunities

Institutional/Employment/Multi-Family Site

A site is proposed for a variety of institutional or commercial uses, including religious assembly, offices, neighbourhood services, day-care facilities or other uses. An optional conversion to medium density residential land use is also proposed.

Fire Hall

A .4 ha site for a fire hall to serve the Riverbend/Terwillegar districts has been designated within the village centre in response to Servicing Concept Design Brief requirements and the criteria of the City of Edmonton Fire Department. The site is located far enough from Riverbend Road to avoid disruption of traffic by emergency vehicles.

Residential Development

The predominant land use within the village centre will be multi-family residential development in the form of town houses and/or stacked town houses. Maximum densities of 60 units/ha are proposed.

Gas Regulating Station

A *private corporation (utility)* requires a gas regulating station to replace the current facility east of 156th Street and south of the *utility* corridor. A location in the southern corner of the village centre area is shown on the plan. The final site will be determined in conjunction with Stage 1 development.

Amended by Editor

4.4 SERVICING CONSIDERATIONS

The water supply, sanitary drainage and storm water drainage systems for the neighbourhood are consistent with the Terwillegar Heights Servicing Concept Design Brief as approved by Council.

Water Supply and Distribution

The neighbourhood will be supplied from the E.L. Smith Water Treatment Plant via the existing South Feeder Main and the proposed South Ring Main Stage II. The existing 300 mm watermain located at Heath Road, on the north side of the *utility* right-of-way (*Figure 8*) provides an immediate water supply to the area as well as a looping connection to the future South Ring Main. Additional points of connection will be to the South Ring Main along Riverbend Road.

Amended by Editor

A 450 mm diameter main approximately bisecting the neighbourhood will be required to provide necessary fire flows to the school sites and to provide flow to future development east of Terwillegar Drive. A looped main, 250 mm and 300 mm in diameter will provide primary servicing to the western portion of the neighbourhood. Secondary mains 250 mm and smaller provide looping for the remainder of the network systems. A water network analysis has been approved by the Public Works Department.

Sanitary Drainage System

The neighbourhood is located within a single drainage basin for sanitary flows. A preliminary sanitary drainage system has been designed in accordance with the recommended alternative of the Servicing Concept Design Brief. The system will provide sanitary drainage from south to north to an existing 1050 mm trunk sewer located on Riverbend Road north of the *utility* right-of-way which has a capacity of 1.68 cubic metres/second (*Figure 9*).

Amended by Editor

At the upstream end, the system will be designed to receive 0.416 cubic metres/second from future development to the east and 1.12 cubic metres/second from future development to the south, in accord with the requirements of the Servicing Concept Design Brief. As noted in the brief, the adopted servicing scheme provides flexibility to redirect flows to a possible regional trunk line in the transportation and utilities corridor. Recovery of oversizing of the sanitary drainage system within Haddow will be required regardless of whether all or a portion of these anticipated flows are redirected.

Figure 8.0 Preliminary Watermain Trunk (Bylaw 10452, July 22, 1993)

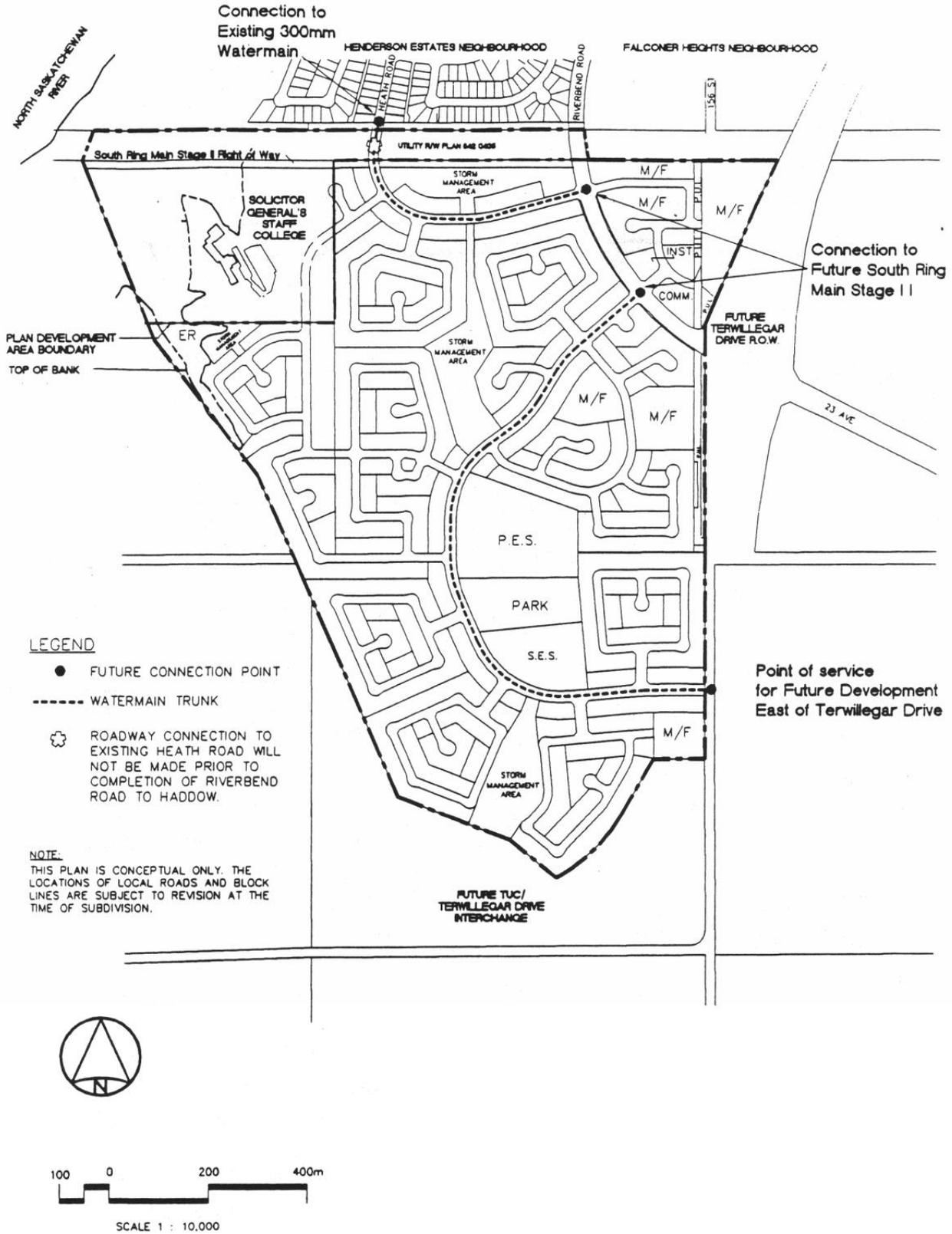
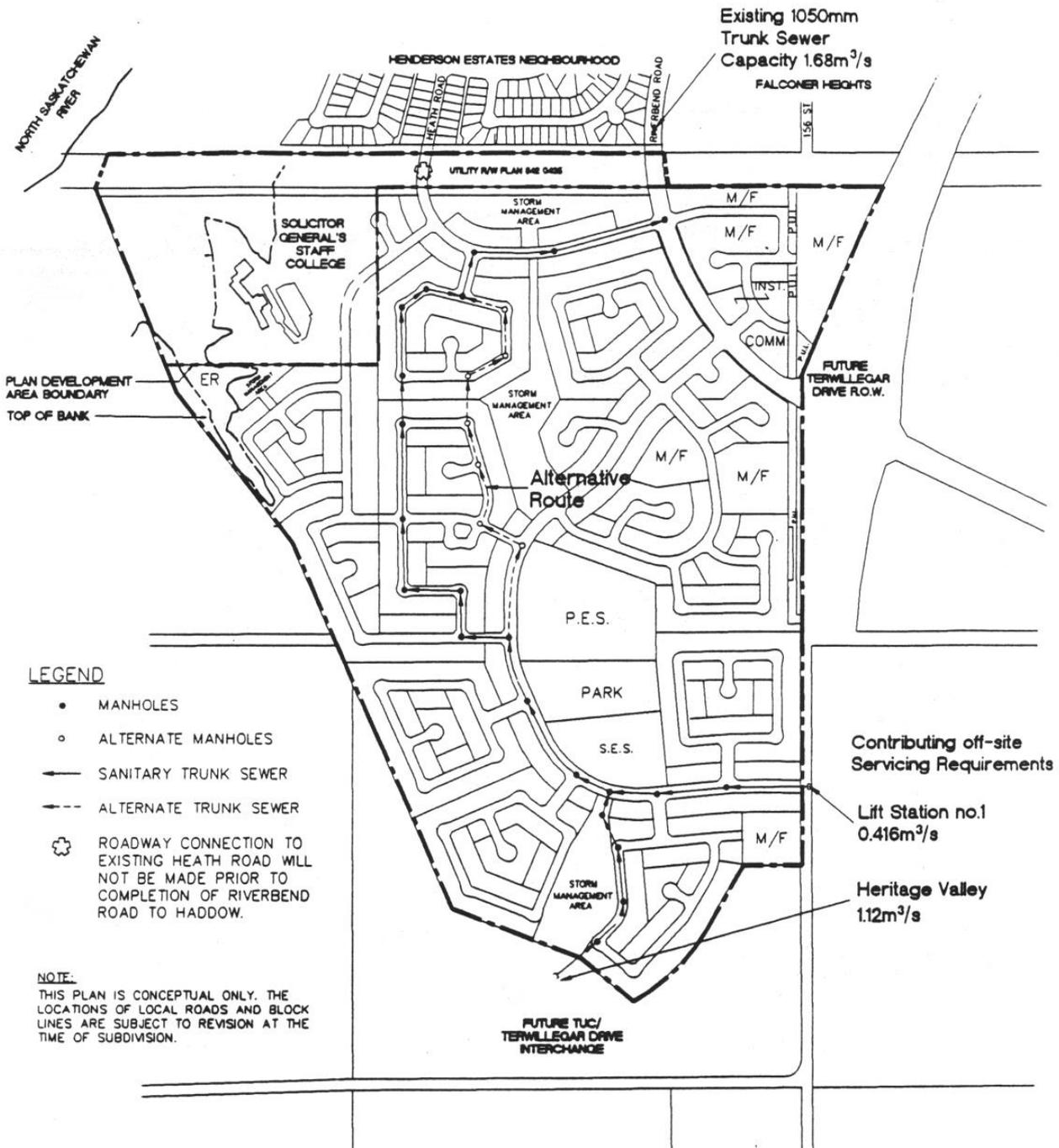


Figure 9.0 Preliminary Sanitary Trunk Sewer (Bylaw 10452, July 22, 1993)



LEGEND

- MANHOLES
- ALTERNATE MANHOLES
- SANITARY TRUNK SEWER
- - - ALTERNATE TRUNK SEWER
- ⊕ ROADWAY CONNECTION TO EXISTING HEATH ROAD WILL NOT BE MADE PRIOR TO COMPLETION OF RIVERBEND ROAD TO HADDOW.

NOTE:

THIS PLAN IS CONCEPTUAL ONLY. THE LOCATIONS OF LOCAL ROADS AND BLOCK LINES ARE SUBJECT TO REVISION AT THE TIME OF SUBDIVISION.



SCALE 1 : 10,000

An alternate routing for the trunk sewer is suggested for the central portion of the neighbourhood to avoid potential conflicts with the large-diameter storm drainage trunk.

Storm Drainage

The main elements of the preliminary stormwater drainage system are shown conceptually on *Figure 10*. The system will receive off-site flows of 1.05 cubic metres/second from development areas to the southeast. Stormwater drainage will be from the south to the north, with the trunk sewer tying into the existing 1350 mm trunk on Riverbend Road north of the *utility* corridor.

Amended by Editor

Provision has been made for retention of major flows in a pond system. In general, the size and retention capacity of the ponds will be consistent with land ownership and corresponding flow contributions. The actual size and shape of the ponds will be developed as approved in the neighbourhood design report.

4.5 DEVELOPMENT CONCEPT - STATISTICAL SUMMARY

Land Use and Population

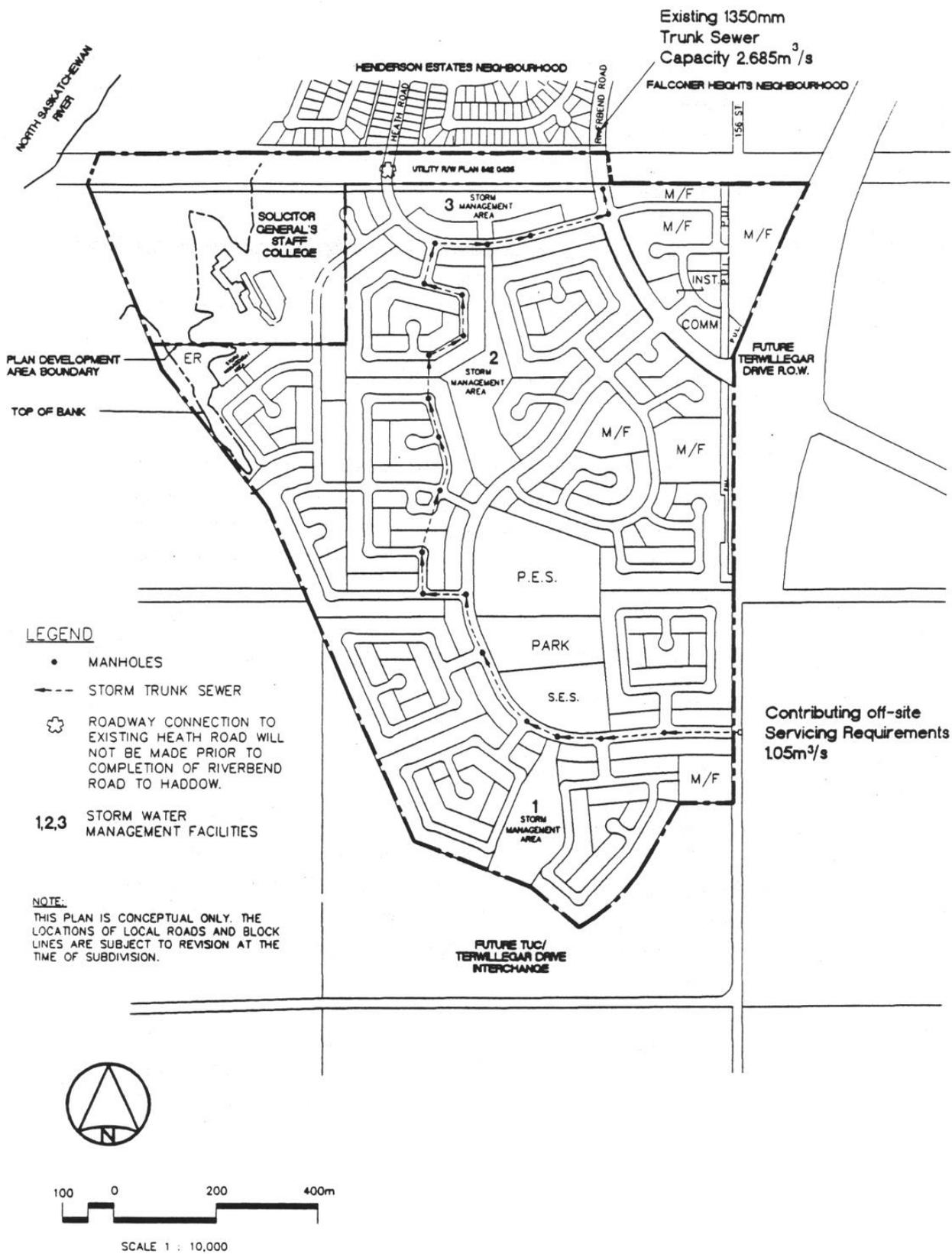
The total area covered by this Neighbourhood Area Structure Plan is estimated as *134.80* ha. The gross developable area is *107.98* ha. As shown on *Table 3*, the net residential area as proposed in the land use concept is *55.95* ha for single family and *10.76* ha for multiple family development for a total of *66.71* ha, or *61.7%* of the total area.

Amended by Editor
Bylaw 12576
May 30, 2001

The population potential for the neighbourhood is *4,380* as shown on *Table 3*. This is derived using density figures from the Terwillegar Heights Servicing Concept Design Brief and from typical densities in neighbourhoods within Riverbend to the north.

Amended by Editor
Bylaw 12576
May 30, 2001

Figure 10.0 Preliminary Storm Trunk Sewer (Bylaw 10452, July 22, 1993)



Housing Type

The development concept as proposed would result in a split of 64% single family dwellings and 36% multiple family dwellings. Recognizing market conditions, all multiple family parcels are designed so they are of sufficient size and shape to be converted to single family use, subject to appropriate plan amendments. Conversely, there are several locations where multiple family use could be expanded if warranted by market conditions and also subject to appropriate plan amendments.

Bylaw 12576
May 30, 2001

School Populations

The number of school children projected for the area, based on a two tier school building system, are shown on *Table 4*. Using generation ratios of the City of Edmonton, there would be 758 students attending the public school system and 332 students in the separate system.

Amended by Editor
Bylaw 12089
July 22, 1999

4.6 STAGING

A preliminary staging sequence for development of the neighbourhood is illustrated on *Figure 11*. This is based on considerations of servicing and access.

Amended by Editor

Generally the pattern of development will occur from north to south, reflecting the direction of extension of existing services. A number of substages of development within the larger areas may be processed for subdivision approvals. In addition, market conditions may allow more than one stage to be under construction at the same time.

TABLE 3
HADDOW NEIGHBOURHOOD AREA STRUCTURE PLAN
LAND USE AND POPULATION STATISTICS
 Amended by Bylaw 12576, May 30, 2001

	Area (ha)	% of GDA	
Gross Area	134.80		
Environmental Reserve	7.04		
Utility ROW	10.06		
Terwillegar Drive	1.78		
Solicitor General Staff College	7.94		
Gross Developable Area	107.98	100.00	
Public Utility	0.23	0.21	
Storm Management Facilities	7.25	6.71	
Municipal Reserve/Schools*	8.91	8.25	
Commercial	0.74	0.69	
Institutional	2.65	2.45	
Roads	21.49	19.90	
Low Density Residential	55.95	51.82	
Medium Density Residential	10.76	9.96	
	Units	% of Total Unites	Population
Low Density Residential**	895	64	3,097
Row Housing (RF5)	<u>11</u>	<u>36</u>	<u>1,283</u>
Total Residential	1,406	100	4,380

Density: 40.6 persons per gross hectare

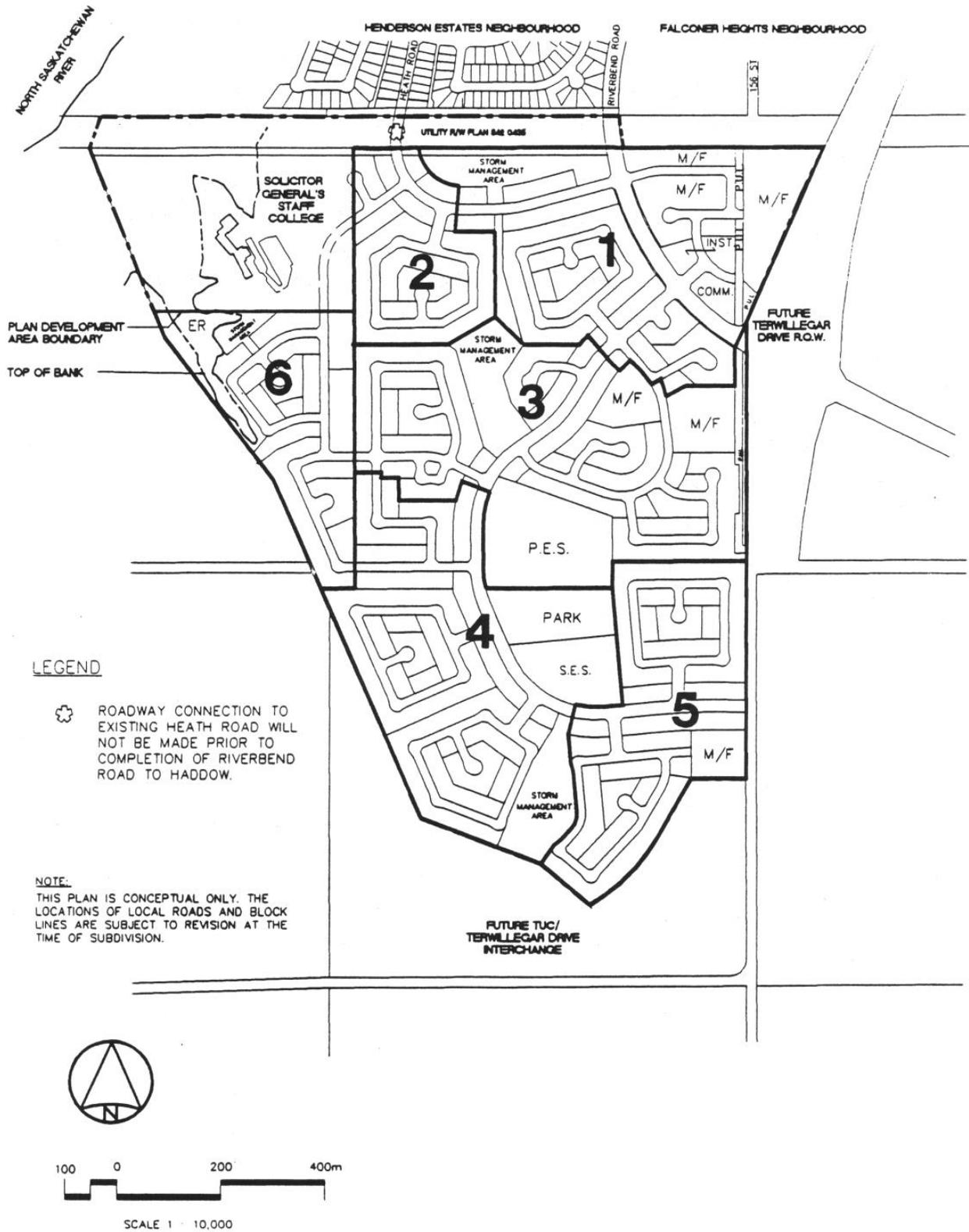
* Indicates potential re-designation to low density residential

**These figures have been adjusted to correct a previous error

TABLE 4
HADDOW NEIGHBOURHOOD AREA STRUCTURE PLAN
STUDENT GENERATION
 Amended by Bylaw 12089, July 22, 1999

Land Use	Dwelling Units	Tier 1 School		Tier 2 School		Total
		Public K4	Separate K-9	Public 9-12	Separate 10-12	
Low Density Residential	910	323	250	138	47	758
Medium Density Residential	<u>511</u>	<u>150</u>	<u>118</u>	<u>52</u>	<u>12</u>	<u>332</u>
Totals	1,421	473	368	190	59	1,090

Figure 11.0 Preliminary Staging (Bylaw 10452, July 22, 1993)



5.0 POLICY CONTEXT AND COMPATIBILITY

General Municipal Plan

The Neighbourhood Area Structure Plan for Haddow follows the principles established within the City of Edmonton's General Municipal Plan, *the enabling legislation in place at the time of this NASP approval*. The neighbourhood:

Amended by Editor

- is located within an area designated as suburban development on General Municipal Plan Development Concept
- is contiguous with existing development (Policy 2.A.1.)
- responds to market forces (Policy 2.A.4)
- constitutes a planned, integrated neighbourhood with a full range of services (Objective 2.B)

Servicing Concept Design Brief

The plan incorporates the considerations outlined previously in Section 3.0. North Saskatchewan River Valley ARP.

No development is proposed below the top of the bank line. That line will be defined on a filed plan of survey.

City Council Guideline

The plan provides for a mix of housing falling within the range of 15 % and 35% multi-family with the balance as single family residential.

APPENDIX 'A'

**APPENDIX A
SUMMARY OF VEGETATION EVALUATION**

Vegetation Unit*	Description	Conclusions and Recommendations
A	<ul style="list-style-type: none"> - former farmstead site - combination of planted and natural shelterbelt of poplar (<i>Populus</i> sp.), willow (<i>Salix</i> sp.), spruce (<i>Picea</i> sp.), Manitoba Maple (<i>Acer negundo</i>) - a sparse understorey of dogwood (<i>Cornus</i>, sp.) and grasses - most of this stand is very mature with some deadwood and disease apparent 	<ul style="list-style-type: none"> - subject to severe stress - no retention
B	<ul style="list-style-type: none"> - former farmstead site - mix of very mature spruce, Manitoba Maple, poplar - and willow, some deadwood and disease - appear to be at the end of their lifespan 	<ul style="list-style-type: none"> - subject to severe stress and total loss - no retention except retain spruce where possible
C	<ul style="list-style-type: none"> - remnant natural growth along road R.O.W. - linear stand of trembling aspen (<i>Populus tremuloides</i>) with a limited understorey of regenerating aspen and dogwood - a large amount of deadwood and disease is apparent and the trees appear to be in poor condition, near the end of their lifespan 	<ul style="list-style-type: none"> - subject to severe stress and total loss - no retention
D	<ul style="list-style-type: none"> - a planted shelterbelt of mature Manitoba Maple and Colorado Spruce (<i>Picea pungens</i>) - some dogwood and wild rose (<i>Rosa</i> sp.) interspersed as understorey material - distinct patterning with approximately a dozen spruce followed by three maples - trees appear to be in good condition although they are planted too close together for optimum development and shape 	<ul style="list-style-type: none"> - provides a strong focus in the landscape and offers a high aesthetic value to the land - retention (where possible) - incorporation into long-term development plans
E	<ul style="list-style-type: none"> - planted shelterbelt - large specimen Colorado Spruce and Manitoba Maple in an extended alternating pattern - in good condition and form 	<ul style="list-style-type: none"> - provide high aesthetic value to the site - retention (where possible) - incorporation into long-term development plans
F	<ul style="list-style-type: none"> - natural stand typical of river valley - consists mainly of Trembling Aspen with an occasional spruce - a sparse understorey of dogwood, rose, snowberry (<i>Symphocarpus occidentalis</i>), and grasses is found here along with various mosses - all plant material appears to be in good condition 	<ul style="list-style-type: none"> - potential aesthetic and interpretive value - retention (where possible) - incorporation into long-term development plans