

KENTWOOD NORTHEAST

(KINGSGATE)

NEIGHBOURHOOD AREA STRUCTURE PLAN

Prepared for

**Laebon Developments Ltd.
and
Quantum IV Developments Inc.**

**Adopted as a bylaw September 1998
Amended August 2003
Amended August 2004
Amended July 2005
Amended September 2005**

**Neighbourhood Area Structure Plan amended by City Council
(Bylaw 3217/B-2021)
March 1, 2021**

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1. INTRODUCTION

This Neighbourhood Area Structure Plan was originally prepared in September of 1998 on behalf of Laebon Developments Ltd. and Quantum IV Developments Inc. in accordance with the City of Red Deer's 1996 Planning and Subdivision guidelines and as a precondition for redesignation and subdivision.

In June 2003 it was revised to change road patterns on the lands owned by 957292 Alberta Ltd. (Laebon), to add a small piece of land to the west of the subject site and to indicate utilities installed up to that date. The January 2002 version of the City of Red Deer Planning and Subdivision guidelines was applied to the update.

1.1 Location

The land is generally located west of Gaetz Avenue, south of Highway 11A, southeast of the Canadian Pacific Railway and north of the existing Kentwood subdivision (as shown on Figure 1).

1.2 Ownership as at September 1998

In September 1998 there were 45.91 hectares of undeveloped land, with ownership distributed as shown on Figure 2.

Parcel one - Block 3, Plan 212 HW - The area is owned by Quantum IV Developments Inc. It is located immediately southwest of the intersection of Gaetz Avenue and Highway 11A.

Parcel two - N ½ of 32-38-27-4 – In September 1998 this land was owned by Jacks Men's Wear (Red Deer) Ltd.

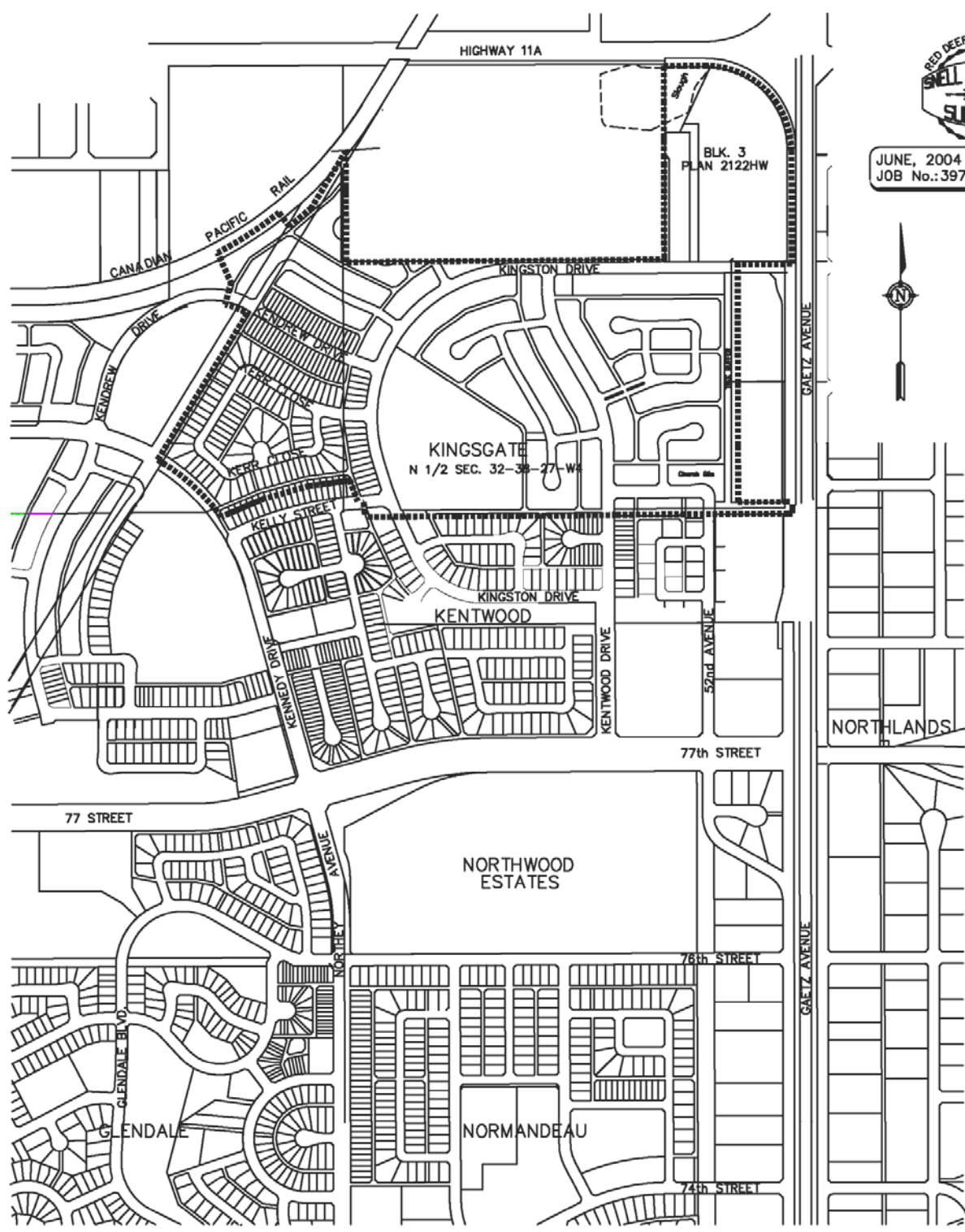
Parcel three – Various M-R zoned parcels owned by the City of Red Deer. The City owned land had been acquired as municipal reserve dedications from previous subdivisions.

1.3 Ownership as of January 2003

By January 2003 some of the original land had been developed. That area is shown on Figure 3, along with the current ownership of the undeveloped land.

Parcel one - In January 2003 parcel one, owned by Quantum IV Developments Inc. was unchanged.

Parcel two – The land owned by Jack's Men's Wear (Red Deer) Ltd. had been sold to 957292 Alberta Inc, which is owned by W. G. (Gord) Bontje, the owner of Laebon Developments Ltd.



JUNE, 2004
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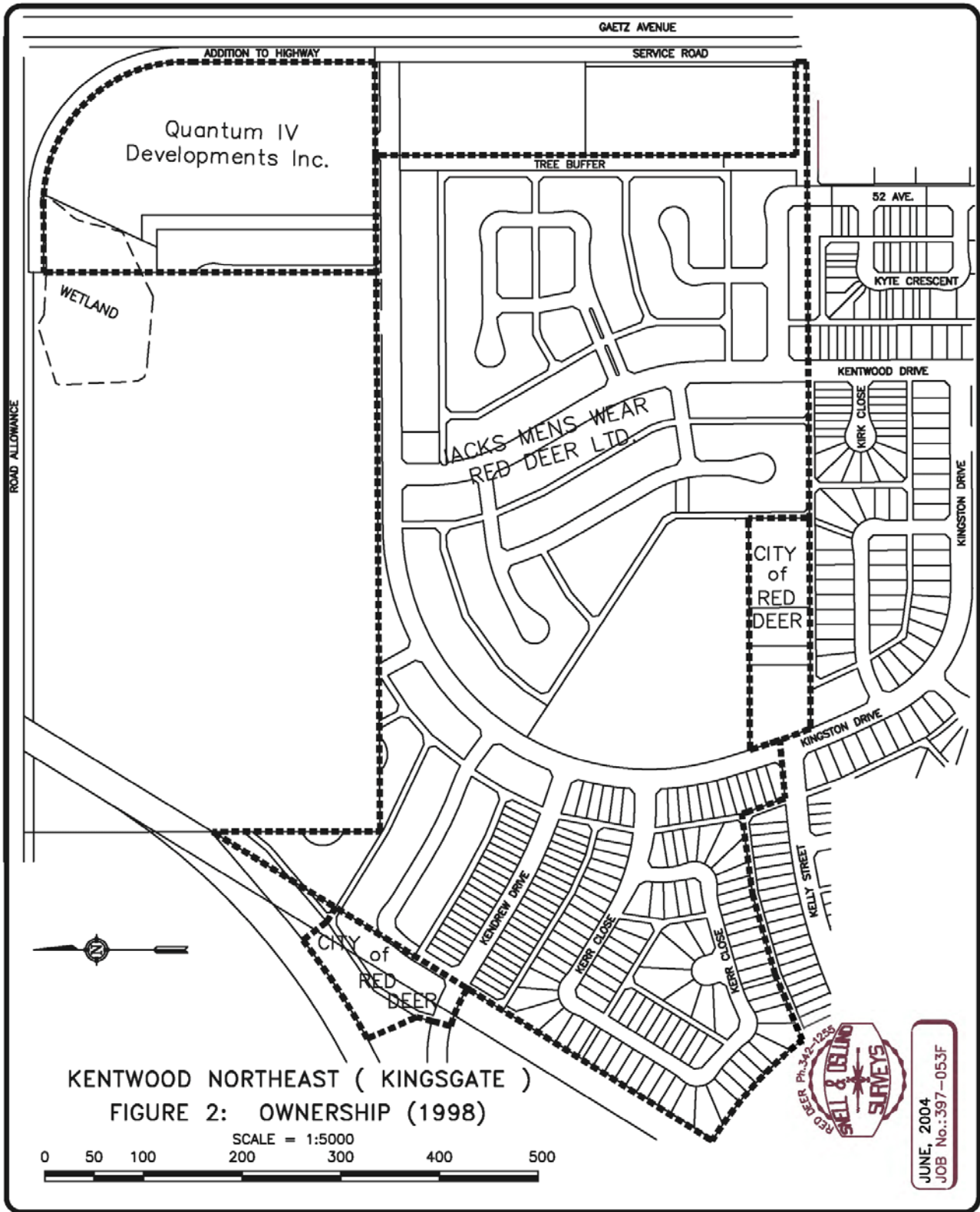


KENTWOOD NORTHEAST (KINGSGATE)

FIGURE 1: LOCATION PLAN

SCALE = 1:10000





Parcel three – Various M-R zoned parcels owned by the City of Red Deer. The City owned land had been acquired as municipal reserve dedications from previous subdivisions

Parcel four – The City of Red Deer owns a parcel of land at the west end of the site, and has agreed to sell a portion of it to Laebon Developments Ltd. That parcel was not included in the 1998 plan, but is being added to the plan area because it will logically be developed in conjunction with this plan area.

1.4 Site Area

The plan area is 47.341 hectares.

1.4.1 Site Area in September 1998

At the time this plan was originally prepared in September 1998, the undeveloped land totaled 45.91 hectares.

Parcel one – was 6.779 hectares, owned by Quantum IV Developments Inc.

Parcel two – was 37.632 hectares, owned by Jacks Men's Wear Ltd.

Parcel three – was 1.499 hectares, owned by the city of Red Deer.

1.4.2 Site area in January 2003

At the time of this revision to the plan in January 2003 the undeveloped land totaled 34.447 hectares.

Parcel one – is 6.779 hectares and remains undeveloped.

Parcel two – has been partially developed and is now 26.538 hectares.

Parcel three – is still 1.499 hectares owned by the City of Red Deer.

Parcel four – has been added to the plan area, and is 1.13 hectares.

Kentwood Northeast Neighbourhood Area Structure Plan

Table One

Plan Statistics by Hectare

Land Use	Original Owner				Total Hectare
	Laebon	Quantum IV	City MR	City West	
Existing R1	3.795	-	-	-	3.795
Existing R1N	3.712	-	-	-	3.712
Existing R1A	2.890	-	-	0.441	3.331
Existing R2	0.075	-	-	-	0.075
Proposed R1	7.230	-	-	0.015	7.245
Proposed R1N	3.987	-	-	-	3.987
Proposed R1A	0.017	-	-	-	0.017
Day/Social Care	0.117	-	-	-	0.117
Place of Worship	0.413	-	-	-	0.413
Central Site MR	3.917	-	1.385	-	5.302
Miscellaneous MR	0.801	0.529	0.136	0.721	2.187
Wetland	-	0.481	-	-	0.481
Street/Lane/PUL	10.837	-	-	0.256	11.093
Commercial	-	5.599	-	-	5.599
Total Hectares	37.791	6.609	1.521	1.433	47.354

Plan Statistics by Percentage

Land Use	Original Owner				Total Percent
	Laebon	Quantum IV	City MR	City West	
Existing R1	8.014	-	-	-	8.014
Existing R1N	7.839	-	-	-	7.839
Existing R1A	6.103	-	-	0.931	7.034
Existing R2	0.158	-	-	-	0.158
Proposed R1	15.268	-	-	0.032	15.300
Proposed R1N	8.420	-	-	-	8.420
Proposed R1A	0.036	-	-	-	0.036
Day/Social Care	0.247	-	-	-	0.247
Place of Worship	0.872	-	-	-	0.872
Central Site MR	8.272	-	2.925	-	11.197
Miscellaneous MR	1.691	1.117	0.287	1.523	4.618
Wetland	-	1.016	-	-	1.016
Street/Lane/PUL	22.885	-	-	0.541	23.426
Commercial	-	11.824	-	-	11.824
Total Percent	79.805	13.957	3.212	3.026	100.000

2.0 SITE CHARACTERISTICS

2.1 Existing Land Use

The plan area is presently designated A-1, Future Urban Development District under the City of Red Deer Land Use Bylaw 3156/96. The general purpose of this district is: “□ to ensure that development on lands required for future urban development is restricted to ensure that future development may proceed in an orderly and well planned fashion, in keeping with the intent of the Municipal Development Plan”.

The plan area is situated within the boundary of, and is consistent with the objectives of the Northwest Area Structure Plan.

Redesignation to appropriate residential and commercial districts will be required before development can occur.

2.2 Natural Features

This Neighbourhood Area Structure Plan encompasses lands which are generally flat with elevations ranging from a high point of 881 meters on the west portion to a low point of 874 meters on the east portion (see Figure 4). The plan area is presently a mixture of cultivated land, tree covered areas and wetlands.

The City of Red Deer’s Ecological Profile of the North Kentwood Natural Area identified five zones within the Neighbourhood Area Structure Plan area (Appendix A), and provided priority rankings for each zone, for the preservation of natural areas (A is top priority, C is low priority).

Zone 6 (old drive-in site) – Priority A – Recommendation R1. The area is covered by a sporadic growth of poplars intermixed with willows which also line the eastern part of the section. The area is characterized by diverse vegetative growth and is populated by a wide variety of birds. The profile encourages the preservation of as much of the natural habitat as possible.

Wetland areas will be retained in their natural state and will be used for storm water detention or retention during rainfall events which exceed the 1:5 year event. Many of the features outlined in the Ecological Profile will be lost as a result of commercial and semi detached housing development.

City Parks department staff would like an opportunity to remove orchids from the site prior to development if the Owner has no plans to preserve them or relocate or use these plants.

Zone 7 – Priority A – Recommendation R2. A large mature northwest poplar wind break lines the north boundary of a commercial sales lot at the north end of Zone 7. The western edge of the commercial lot is lined with Manitoba maple, aspen, balsam and willow. A stand of mixed poplar trees runs north and south connecting Zones 6 and 7 along the boundary between the commercial lots on the west side of Gaetz Avenue and the Neighbourhood Area Structure Plan area. The profile encourages preservation of mature poplar tree stands running east and west located at the north and south ends of Zone 7. The ecological profile recommends retaining the tree stands in their entirety for use as entrance features at the collector road accesses into the neighbourhood.

The Kingston Drive/Gaetz Avenue intersection requires that additional lands be obtained from third party landowners. The City of Red Deer has developed a roadway concept for this intersection. Only those trees which need to be removed to accommodate construction of the roadway will be cleared.

Much of the poplar wind break identified along the west edge of the existing commercial area lies in a buffer area identified in the Neighbourhood Area Structure Plan. Only the portion of that site at the south end of the buffer (east of the proposed worship space site and within the worship space site) has been deemed possible to preserve of.

Zone 8 – Priority B – Recommendation R3. This area is primarily made up of a large tree stand surrounded by a cultivated field. The north and west sides of the zone contain many aspen, poplar and various willow species, while the east side consists of mixed poplars and a few spruce trees. The profile recommends that the southeast portion of the poplar trees be incorporated into residential housing where possible. The north side of the zone extends into properties outside of the boundaries of the Neighbourhood Area Structure Plan area. As of January 2003, these tree stands had been eliminated by site grading of the plan area.

Zone 12 – Priority A – Recommendation R4. A small band of poplar trees on the south portion of the area should be dedicated as a walkway lot and municipal reserve.

This zone lies on the south edge of the proposed park/school site and it is feasible to retain a portion of the stand during development of the park/school site. Where the zone extends eastward from the school site along the rear of proposed residential lots, a four (4) metre wide municipal reserve is provided for. It is understood the services for the proposed

residential lots will be extended from the south side to the north side of the four metre treed municipal reserve. The services will be extended through the four metre strip by clearing only those trees which must be cleared to facilitate the lot servicing.

Southeast Wetland – Priority B – Recommendation R5. The area contains a dugout and drainage channel surrounded by semi aquatic grasses and a number of good quality willows and is part of a habitat area that was removed in 1997. The profile encourages preservation of this area and incorporation into future development as a linear drainage channel and passive walking area or incorporation into a future buffer.

Preliminary site grading in 2001 eliminated much of the wetland.

2.3 Servicing

Existing municipal water, sewer and storm sewer facilities are in place on three sides of the Neighbourhood Area Structure plan area. Water mains, sanitary sewer trunks and mains and storm sewer trunks and mains will be extended through the Neighbourhood Area Structure plan area so as to enable servicing of properties to the north which are not part of this Neighbourhood Area Structure Plan. The municipal services will be constructed of such size and capacity so as to ensure that existing facilities which are located at the boundaries of the Neighbourhood Area Structure Plan are fully utilized.

It is the intent of the Owners of the Neighbourhood Area Structure Plan properties to maximize the potential for future development of properties outside the plan area by constructing water, sanitary sewer and storm sewer trunks and mains which can provide service to properties beyond their own.

The site can be serviced with municipal water, sanitary sewer and storm water utilities. An engineering study, required to establish the details of servicing, has been completed and supplied to the City of Red Deer, Engineering Department under separate cover.

2.4 Access

The 6.779 hectare parcel in the northeast corner of the plan area (Quantum IV lands) presently has access from the existing service road on the west side of Gaetz Avenue. The remainder of the plan area can be accessed via Kingston Drive in the west and Kentwood Drive in the southeast.

2.5 Emergency Services

The Neighbourhood Area Structure Plan area currently has an estimated Emergency Services response time of greater than six and one half (6.5) minutes.

2.6 Environmental Assessment

A level 1 Environmental Assessment has been completed by UMA Engineering and submitted to the City of Red Deer under separate cover. The environment site assessment revealed no significant sources of contamination of the subject property.

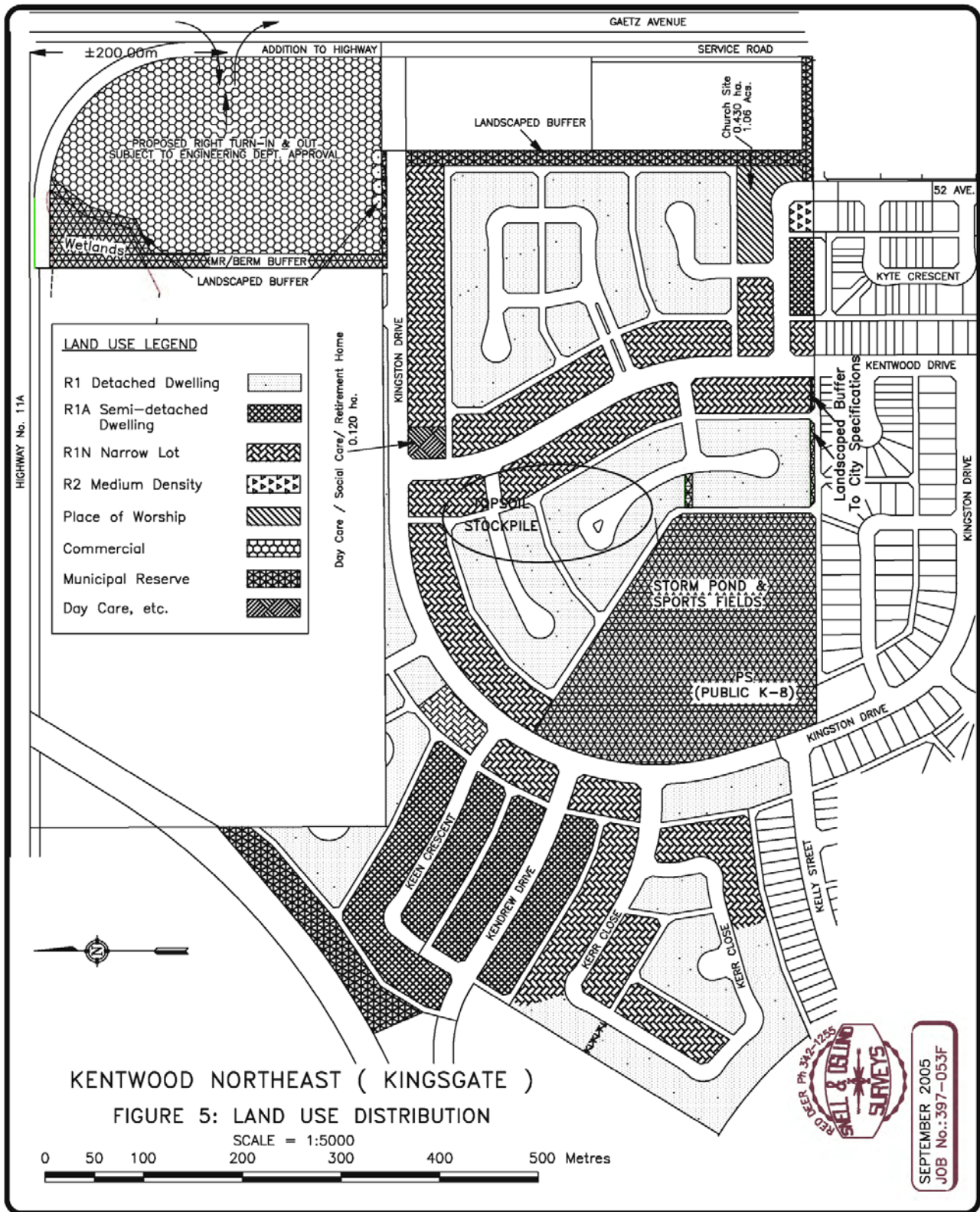
Based on the proximity to the industrial/commercial uses to the east, the report encourages further investigation to monitor the impact of nearby commercial land uses and to study the migration of potential contaminants from nearby quarter sections. Monitoring of the areas adjacent to commercial subdivisions where contaminants could originate will continue as development proceeds and encroaches on those areas.

2.7 Noise Recommendations

In 1999, the City of Red Deer undertook a study of noise levels in the Kentwood area. The study concluded that lands adjacent to the rail track and adjacent to the Edgar Industrial Area exceeded 60 dBa, which is the level deemed by the City of Red Deer to be the maximum acceptable. As a result of the report, the City and Neighbourhood Area Structure Plan landowners agreed to the following strategies to mitigate the effect of the noise on homeowners.

2.7.1 Barrier Height

The berm adjacent to the rail line is required to be a minimum of four metres high. Further, there is to be two metre high noise attenuation fence constructed on top of the berm. The berm will be landscaped to standards set by the City of Red Deer.



Note: Any reference to a specific school authority in this plan is only an indication of a school authority's site preference. The allocation of identified school sites will be determined by the Joint Use Committee. (Bylaw 3217/B-2021)

2.7.2 Barrier Block Construction Techniques

All homes adjacent to the rail are to incorporate barrier block construction techniques to mitigate against noise effects.

2.7.2.1 Construction Details

All homes adjacent to the rail line are to incorporate the following construction aspects:

- 2 x 6 walls
- R24 insulation
- Double glazed windows

2.7.2.2 Home Design Considerations

The report suggests that in the first row of homes adjacent to the rail line, that noise sensitive rooms such as bedrooms could be located on the side of the home furthest from the rail line/industrial areas. This is not a requirement; it is only a suggestion.

2.7.2.3 Construction Initiatives

The reports author offers a number of other ideas that might be incorporated into home construction. He suggests central air conditioning might eliminate the need to open windows. Another is reducing the height of buildings, as bungalows will be better sheltered behind the berm.

3.0 Development Concept

The proposed Neighbourhood Area Structure Plan incorporates policies contained in the Northwest Area Structure Plan and other City of Red Deer guidelines and policy documents.

3.1 Land Distribution

The land use and development concept proposed for the Neighbourhood Area Structure Plan area is shown on Figure 5. The majority of the plan area is proposed for single family residential with some semi-detached development. The northeast portion of the plan area proposes commercial and semi-detached housing uses. The proposed land use distribution is shown in Table 1.

3.2 Residential

The residential areas will consist mainly of R1 and R1N single detached dwellings with some areas zoned R1A which will accommodate semi-detached dwellings. There is a small area in the south east corner which abuts an existing R2 townhouse community that will accommodate a few townhouse units.

3.3 Commercial

A 4.294 hectare area in the northeast portion of the plan area is proposed for C4 Commercial (major arterial) zoning. Development of the commercial property shall be complimentary to the residential development to the west. Uses such as nightclubs and licensed lounges, other than those ancillary to restaurants, which may have a detrimental noise impact, will not be allowed.

Landscaping and/or berming shall be used to enhance the visual appearance of the commercial development, as viewed from other areas. Landscaping and/or berming will also be used to control the noise impact of commercial development on the residential development. Development which will affect the wetland/retention pond located to the northwest of the of the commercial lands will not be allowed until detailed engineering is completed to define the operation of the storm water retention function of the wetland and to establish acceptable water levels for the wetland areas. The detailed engineering will be completed in consultation with the adjoining landowners to the west.

3.4 Density

Including all the lots developed since this plan was adopted in September 1998, and assuming the undeveloped areas are developed as per this plan, it is estimated that this Neighbourhood Area Structure Plan area will accommodate 155 single family R1 lots, 220 single family R1N lots and 140 semi-detached dwellings.

Assuming that 3.4 persons live in each single family dwelling and 3.3 persons in each semi-detached and town house dwelling, the total plan area will house a population of 1,737. A population density of about 42.1 persons per hectare is expected after full development. This equates to 12.48 dwelling units per hectare.

If the areas slated for use as day care, social care or retirement home site and place of worship are eventually used for development of housing (R1N or R1A), the population density in the area will increase. The commercial areas and lands dedicated to the City of Red Deer as municipal reserve from neighboring developments have not been included in the density calculations.

3.5 Open Space

The proposed park and open space system includes a neighbourhood park/school site, walkway, a separate municipal reserve parcel and a buffer area. A total of 15.764 percent of the plan area will be dedicated to municipal reserve.

3.5.1 Neighbourhood Park/School Site

A neighbourhood park/school site is proposed in the central area of the Neighbourhood Area Structure Plan area to accommodate a school and related playground facilities as identified in the Northwest Area Structure plan. The overall site is proposed to be 5.425 hectares (13.405 acres).

A development concept of the park/school site has been prepared by the City of Red Deer and has been provided as Appendix B. An integral part of the development concept is the storm water detention pond which will encompass the sports fields planned for the park (in particular the ball diamond and soccer pitch).

The school site will be zoned PS (public service). While the maps indicate that it will be a public K-8 (kindergarten to grade 8) school, it may be any combination of grades between kindergarten and grade 8.

Note: Any reference to a specific school authority in this plan is only an indication of a school authority's site preference. The allocation of identified school sites will be determined by the Joint Use Committee. (Bylaw 3217/B-2021)

3.5.2 Municipal Reserve Parcels

There are a number of municipal reserve parcels throughout the Neighbourhood Area Structure Plan area.

3.5.2.1 Link from neighbourhood park/school site to the east

A ten metre wide walkway .045 hectares (.111 acres) extending easterly from the school site to the residential area is proposed to connect the school site to the residential development. It will include a 1.5 metre walking trail.

3.5.2.2 Link from Kerr Close to the West

There is a six metre wide link between the west side of Kerr Close and the neighbourhood park/school site to the west. The area of this link is .022 hectares (.054 acres). The M-R strip will be landscaped to ensure access from the residential areas to the park.

3.5.2.3 Railway Area

A total of .416 hectares of municipal reserve will be incorporated into the berm separating residential development from the Canadian Pacific Railway.

3.5.2.4 East Boundary of Residential Area

The total area of this reserve parcel will be .753 hectares. The residential areas on the east edge of the property abut commercial lots fronting Gaetz Avenue. They will be separated by a ten metre wide municipal reserve. A treed berm will be constructed on the reserve. The berm will extend south from the south side of the future location of Kingston Drive to the north end of the proposed place of worship site. There are some trees on the place of worship site, and they will be left by the developer. This reserve will include a segment which will extend from 52 Street to the Gaetz Avenue Service Road which will be left in its present state.

3.5.2.5 South Boundary of Residential Area

An M-R parcel of .052 hectares will be created to link the neighbourhood park/school site to Kentwood Drive. This parcel will be four metres wide, and will be left as natural as possible. Utilities will have to be constructed through the area.

3.5.2.6 Quantum IV buffer

A 0.374 hectare buffer on the Quantum IV lands is proposed to separate the semi-detached residential development from the future commercial development in the northeast area of the plan. The buffer through this area may be developed as a berm. Alternatively, some other landscaping feature may be used to effectively screen the residential areas from the commercial development. Landscaping features which are used to buffer the future residential areas (Quantum IV development lands) from future commercial areas will be designed to enhance the visual appearance of the commercial development and reduce the potential noise impact of commercial development on the residential areas.

As well, a landscaper buffer is proposed to be planted where necessary along the southern boundary of the commercial area to provide screening from residential properties to the south.

3.5.3 Wetlands

The wetland area in the northwest corner of the Quantum IV Development Inc. parcel will be maintained for aesthetic and future storm water management purposes. The zoning designation of the area will be the subject of negotiations between the owner and the City of Red Deer. The wetland area will be incorporated into an integral storm water management plan for areas included in this Neighbourhood Area Structure Plan and for areas which are beyond the extent of this plan.

The wetland extends into properties which could not be incorporated into this plan. Therefore the impact of any storm water management plan which includes those lands has not been accurately determined.

As a result, the eventual limits of the required area for the detention facilities have not been established. The proposed developments which would include the wetlands as part of the required storm water management concept would be developed in such a manner as to ensure there would be no detrimental impact on the natural features in the area.

Prior to development of the future commercial areas located on the east edge of the wetlands, detailed engineering studies will be completed, with cooperation from the landowners to the west of the commercial area, to establish the methods by which the wetlands will be used for storm water retention. Development by the owners of the commercial areas or by owners of future residential areas to the west, will not be permitted until the developers provide details regarding the operating parameters (including water elevations) for the wetland/retention pond.

3.6 Social Facilities

In accordance with the City of Red Deer's planning and subdivision guidelines, a site has been provided which is suitable for either a day care, social care residence or a retirement home, as well as a site for a place of worship.

3.6.1 Day Care/Social Care or Retirement Home Facility

The 0.12 hectare (.3 acre) site provided in the plan area is adjacent to an intersection of two collector roadways and is approximately 400 metres from the designated school site. Should a day care, social care facility or retirement home not be constructed, the site will be suitable for R1N zoning (single family dwellings).

3.6.2 Place of Worship Site

The .412 hectare (1.018 acre) designated place of worship site is at the south east corner of the site, between 52 Avenue and Kentwood Drive. If the site is not required for a place of worship it is suitable for R1A (duplex) zoning.

3.7 Transportation

3.7.1 Collector Roadways

The Neighbourhood Area Structure Plan contains collector roadways aligned in accordance with the Northwest Area Structure Plan.

The plan continues the collector roadway concept contained in the Kentwood West Neighbourhood Area Structure Plan and existing subdivisions to the south. There are three collector roads in the plan area.

3.7.1.1 Kingston Drive

The main collector roadway is a continuation of the existing Kingston Drive and is proposed to circle through the area from Kelly Street to a proposed intersection at Gaetz Avenue at the northeast corner of the plan area.

To complete the connection of the Neighbourhood Area Structure Plan to Gaetz Avenue in the north east corner of the proposed development, Kingston Drive will be constructed on lands which are not presently owned or controlled by either of the owners of the lands which are the subject of this plan. In order for this plan to be effectively implemented, land required to complete the connection of Kingston Drive to Gaetz Avenue must be obtained by the Owners of the plan lands. The City of Red Deer will assist Laebon Developments Ltd. and Quantum IV Developments Inc to obtain the lands owned by others under terms that are timely, fair and equitable.

Where Kingston Drive intersects with the service road at Gaetz Avenue, the service road will be “bulbed”. Intersection designs will be submitted to the City of Red Deer engineering services for review and comment. Complete scaled drawings, showing dimension and significant detail will be prepared prior to development of the intersections.

3.7.1.2 Kentwood Drive

Kentwood Drive presently terminates at the south side of the plan area. It will be extended north through the plan area to connect with the future extension of Kingston Drive.

3.7.1.3 Kendrew Drive

Kendrew Drive extends west from Kingston Drive to residential development to the west.

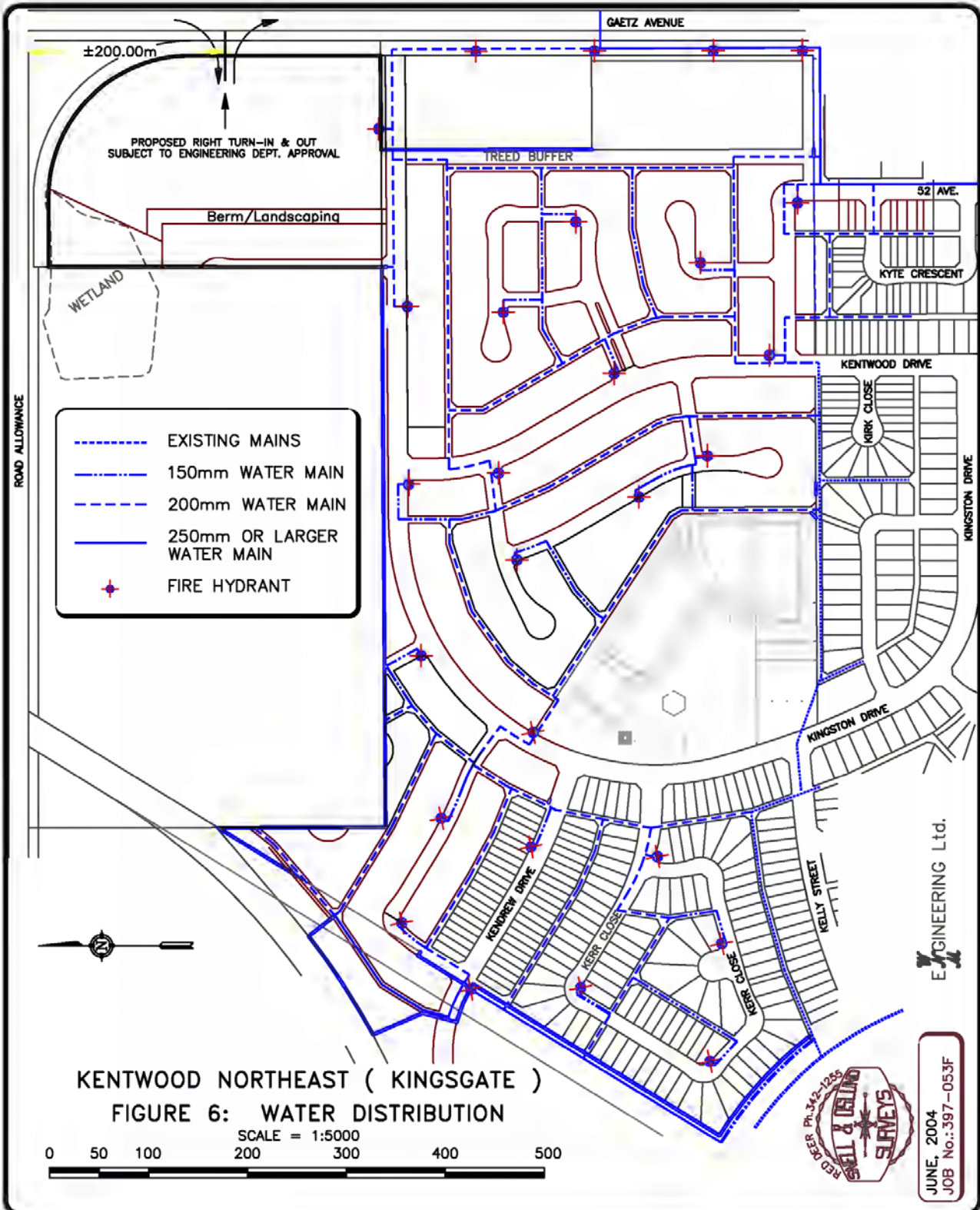
3.7.2 Transit Stopping Zones

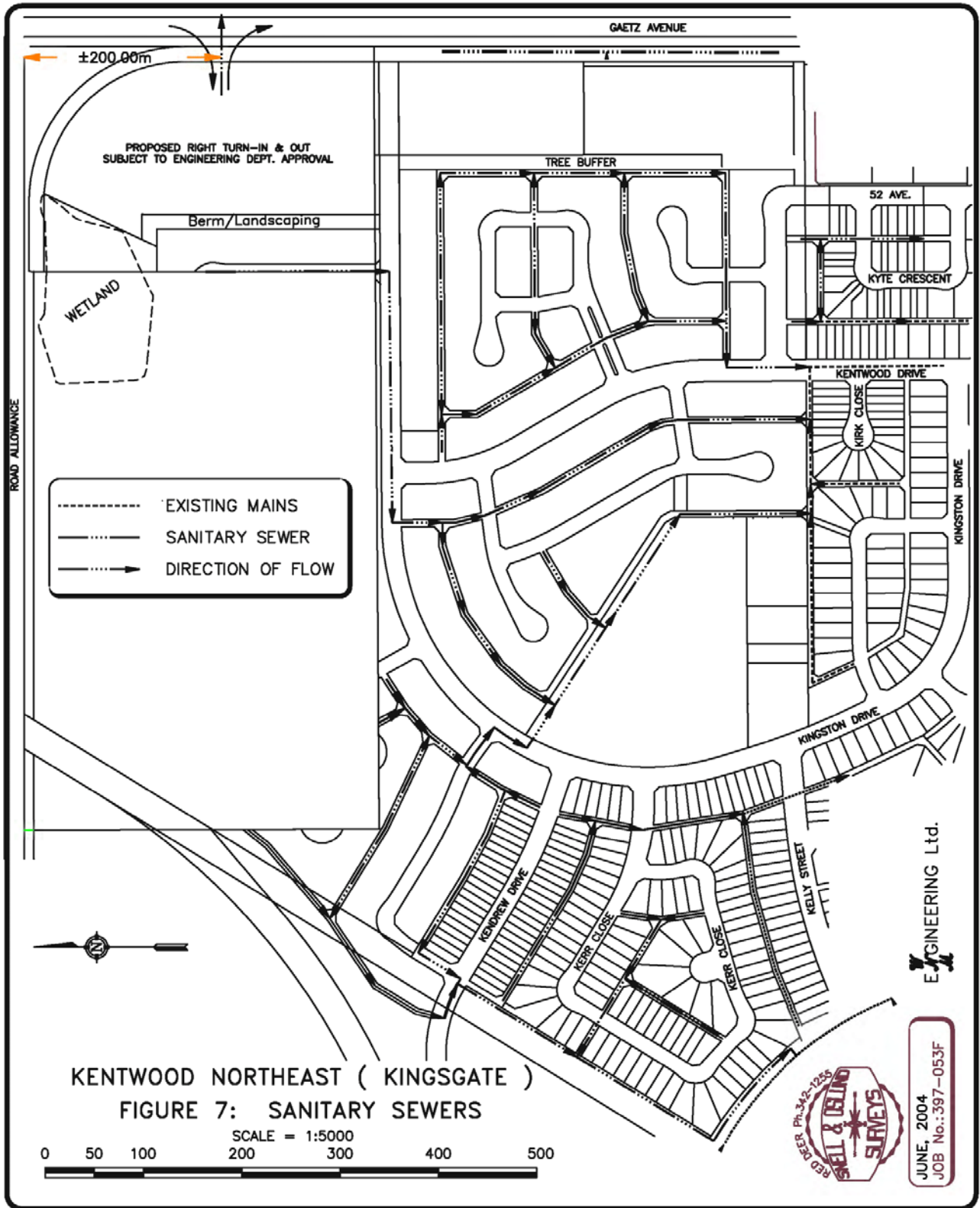
Where transit stopping zones are required along collector roads, efforts will be made by the developers to orient corner lots so that stopping zones will be provided at the side of the lots rather than at the front.

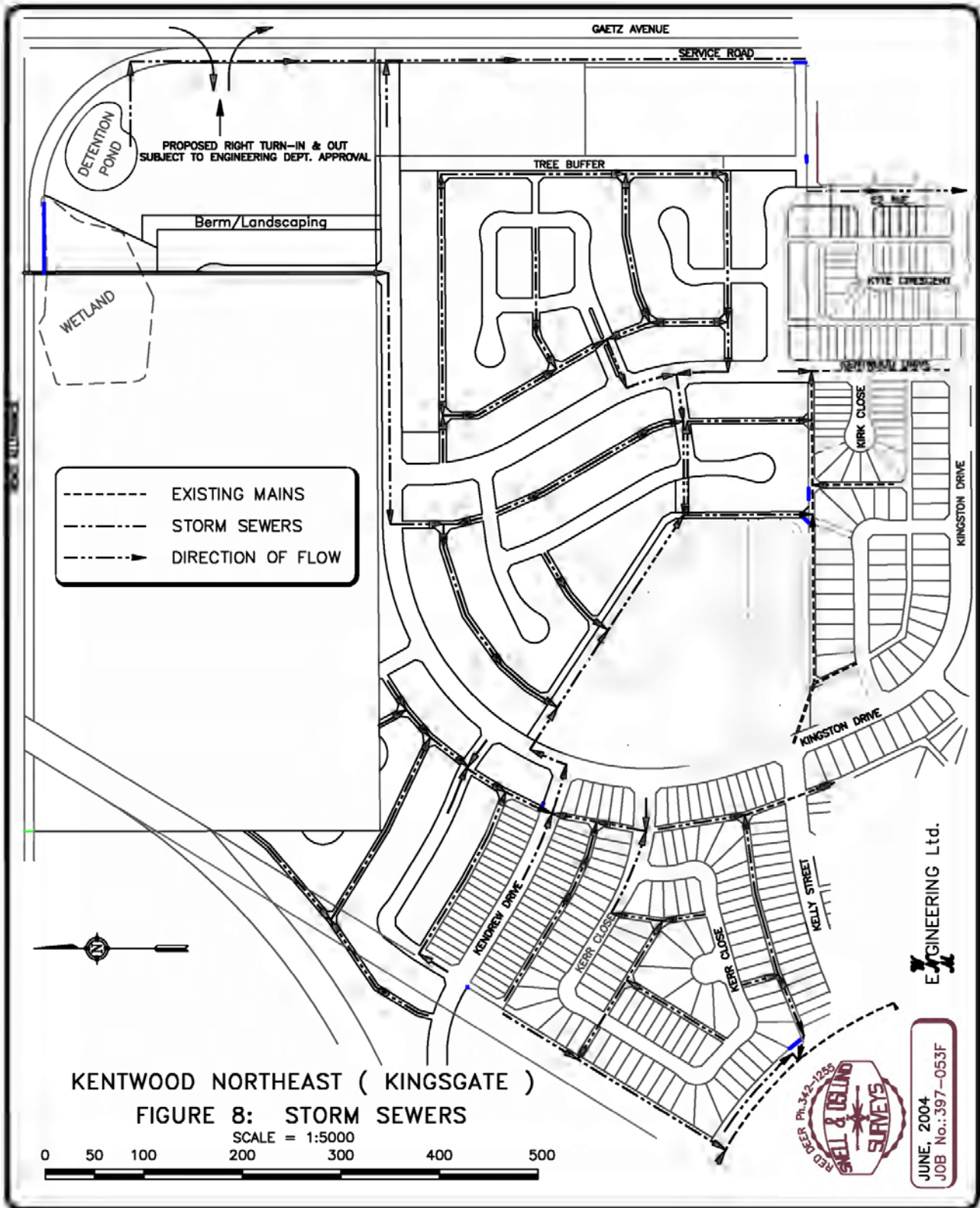
3.7.3 Local roadways

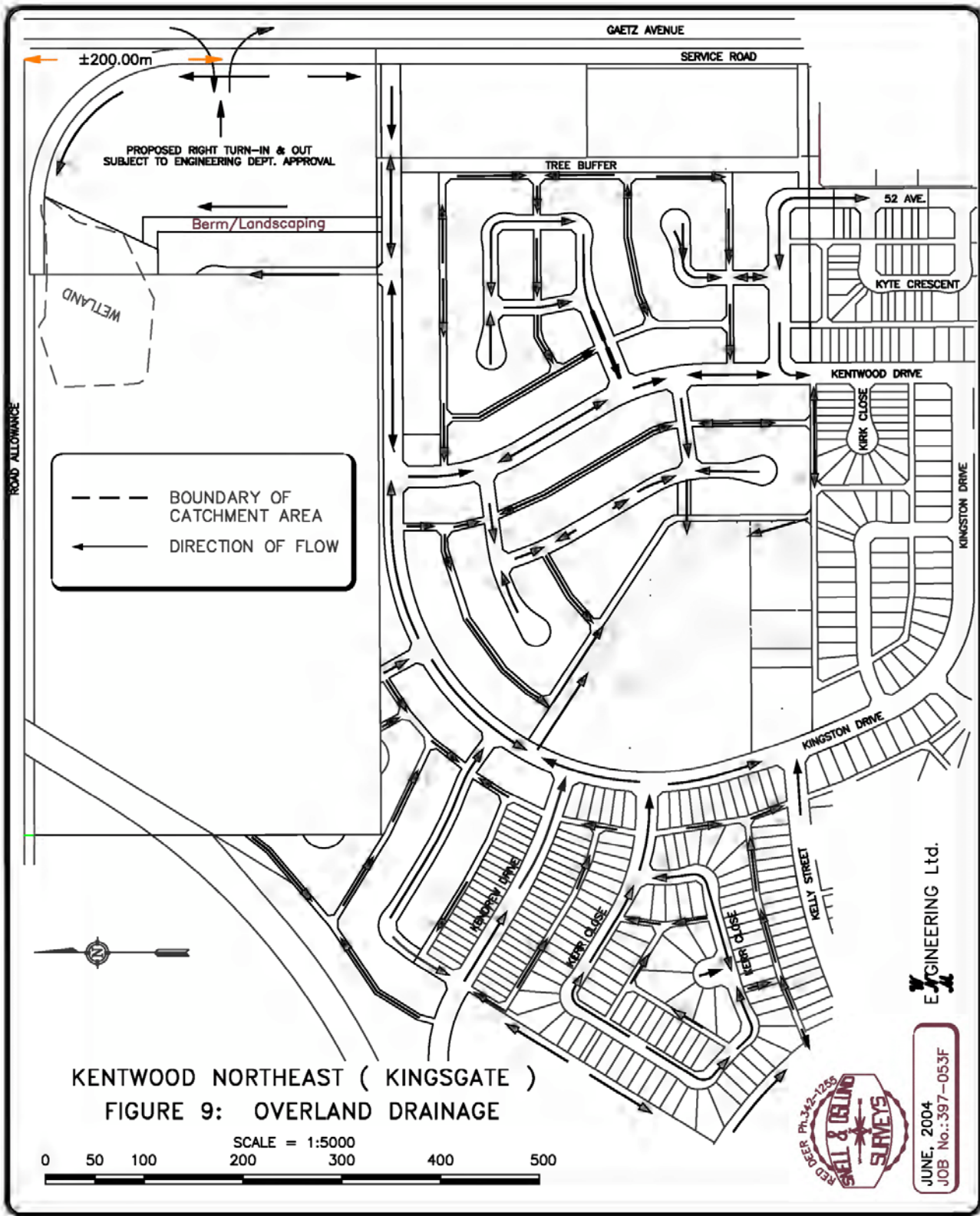
The system of local roadways provides access to individual lots throughout the plan area. Detailed drawings indicating road widths will be prepared and submitted to the City of Red Deer Engineering Services, prior to development.

The alignment of the cul-de-sac in the commercial area located in the northeast corner of the Neighbourhood Area Structure Plan will extend northward from a service road which may be constructed on the west boundary of the existing commercial lots. Concepts for the proposed service road are being prepared by the City of Red Deer, and the new service road will connect with the existing service road on the west side of Gaetz Avenue.









3.7.4 Laneways

The majority of lots within the plan area back onto lanes. A few lots with rear yards adjoining the boundary of the neighbourhood park/school site will not have lane access. Also, some lots which back onto the 4.0 metre treed walkway between the proposed residential development and the laneway in the existing Kentwood subdivision will have restricted lane access.

3.7.5 Pedestrian and Bicycle Circulation

The sidewalks proposed to be developed within the road right of ways combined with the proposed reserve dedication will link the residential areas to the major park features proposed for the plan area and adjacent lands. There is potential for bicycle-pedestrian pathways through the park/school site.

The proposed location for the bicycle-pedestrian pathway is shown on the development concept drawing for the park/school site, prepared by the City of Red Deer, and included as Appendix B.

An additional Municipal Reserve parcel will ensure access from Kerr Close to the park area/school site to the west.

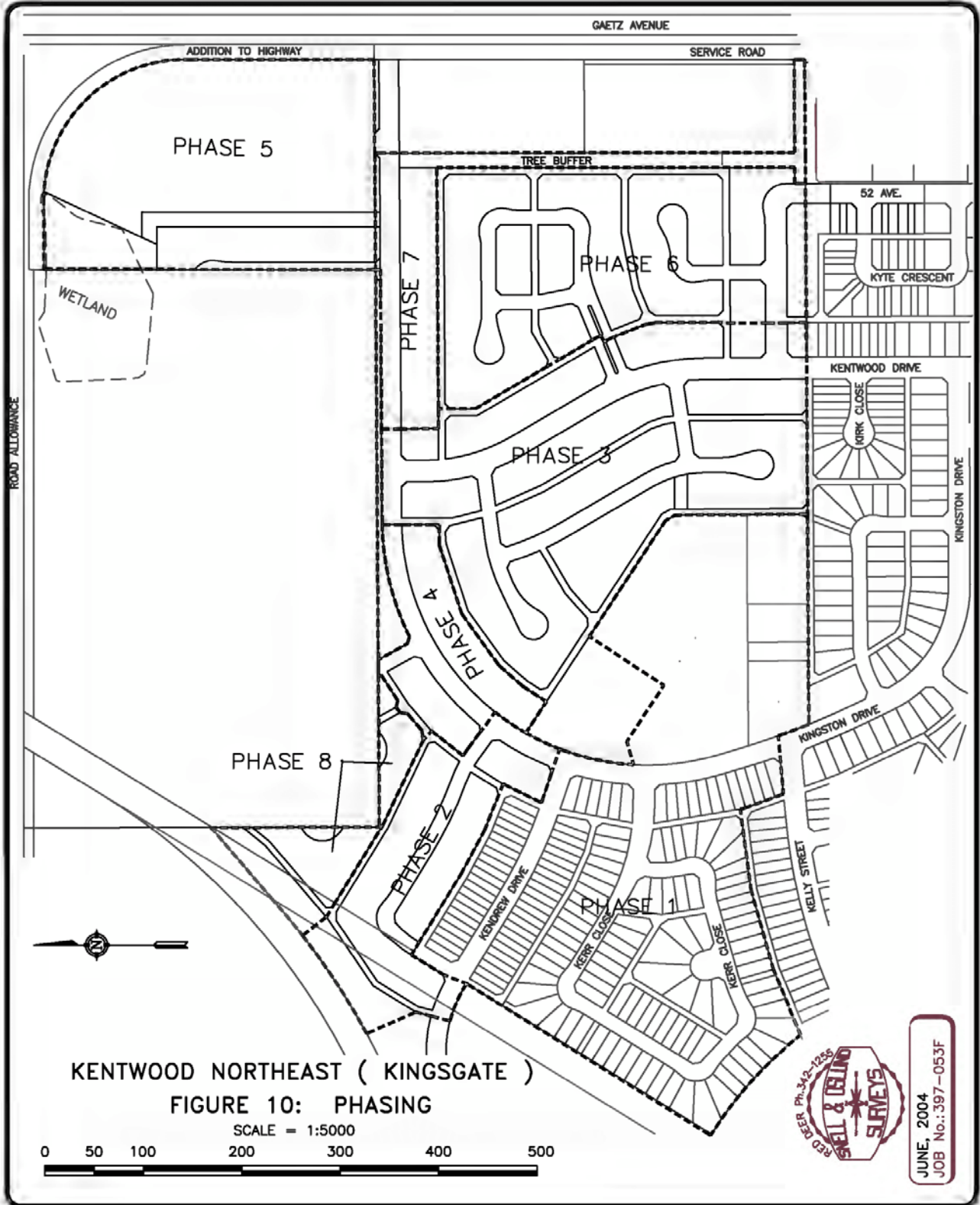
Within the right-of-way of Kingston Drive, adjacent to the west boundary of the park/school site a 2.5 metre wide bicycle path/walkway will provide pedestrian access to lands north of the plan area.

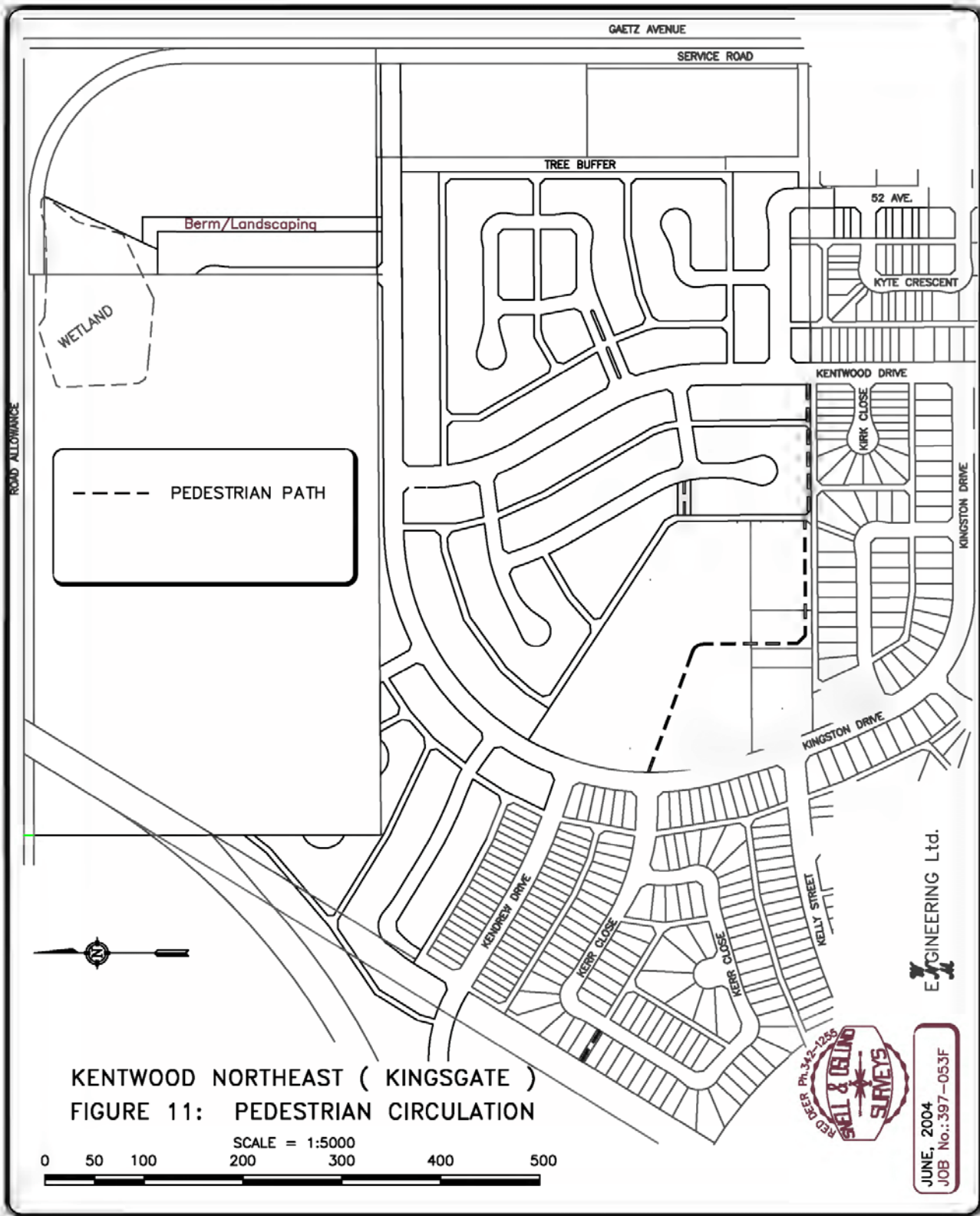
4.0 Municipal Servicing

The Kentwood Northeast Neighbourhood Area Structure Plan area is serviced from existing sanitary sewer and water mains located at the southern boundaries of the Kentwood East properties.

4.1 Water Mains

The Kentwood Northeast Neighbourhood Area Structure Plan will be serviced by water from four locations. The existing 300 mm westerly main, located within the Kennedy Drive right-of-way has been extended along the west side of the site to service early phases of area. The existing 150 mm main located on the east side of Kentwood phase 5E will be extended to complete looping.





The existing 200 mm main located along the eastern boundary of the proposed storm dry pond will be extended. The existing 200 mm easterly service located on Kentwood Drive will be extended north.

The water distribution network will be designed to accommodate all future development areas in the Neighbourhood Area Structure Plan area and those areas which have not been included as part of this plan lying between Kentwood Northeast and Highway 11A which may be developed in the future. Looping of mains and cross connections to existing development areas will be completed as necessary to provide an efficient system with adequate fire flows. Figure 6 schematically shows the network of proposed water mains.

4.2 Sanitary Sewers

The Kentwood Northeast Area Structure plan area will be serviced by sanitary sewer from three main locations. The westerly connection will be made to a 450 mm main in the Kennedy Drive right-of-way. Another connection to a 200 mm main located on the east side of Kentwood phase 5E will be completed to service phase one and two. The easterly connection will be to a 300 mm main located on Kentwood Drive. The sewer has the capacity to serve the entire catchment area. Figure 7 schematically shows the proposed routing of the sanitary sewer system.

All sanitary sewers will be seated and installed in a suitable bedding material in order to provide long terms stability to the pipe. Pipe type will be specified to prevent the ingress of ground water to the system.

4.3 Storm Sewer System

4.3.1 Minor System

Run-off storms up to the one in five year event will be conveyed by gravity via a piped system to two connections to the existing system. The westerly connection is a 1500 mm storm main located in the Kennedy Drive right-of-way and the easterly connection is a 1200 mm main in Kentwood Drive.

Figure 8 schematically shows the routing of the storm sewer system. Pipe sizes and materials will be designed in accordance with the City of Red Deer Design guidelines.

4.3.2 Major System

For storm events in excess of a one in five year event, roads and laneways will be designed to convey overland flows to storm water ponds located in the northwest and the south central part of the plan area.

Ponding of within roadways or lanes will be permitted in strict accordance with the City of Red Deer design guidelines. Area drainage and overland flow routes are indicated schematically on Figure 9.

4.4 Power, Telephone and Cable Vision

Red Deer Electric Light and Power, Telus and Shaw Cable advise that their networks have sufficient capacity, with some qualification regarding the sequencing of phasing, to fully develop the proposed Kentwood Northeast Neighbourhood Area Structure Plan development.

The City of Red Deer Electric Light and Power department has advised that two main utility lines will require underground alignments on the west side of Gaetz Avenue between 80th Street and Highway 11A. The utility lines will also require an alignment westward from Gaetz Avenue along a portion of Highway 11A. The underground alignments are required prior to the development of the commercial areas indicated as phase 5 of the plan.

A third main line will be required to service phases 4,5 and 6. This third main line will follow an alignment from 80th Avenue (at Gaetz Avenue) and along Kingston Drive. Expansion of the existing system will be required to complete the phase 1,2 and 3 development. This expansion will include switchgear alignments currently presumed to be required in the northwest and southwest corners of the park/school site and at Kingston Drive, adjacent to the west boundary of phase 5.

It is understood that any changes to the planned phasing of the development may require installation of temporary overhead lines to provide appropriate servicing levels.

Telus has advised that infrastructure for telephone service to the area presently exists on the east side of Gaetz Avenue. Therefore, extending service to the plan area will require extension of the existing infrastructure westward along alignments reserved for collector road right-of-way (ie. Kingston Drive at the north end and Kentwood Drive at the south end of the plan area). Should either of these proposed collector roads be re-aligned, easements will be required to complete the extension of service to the area.

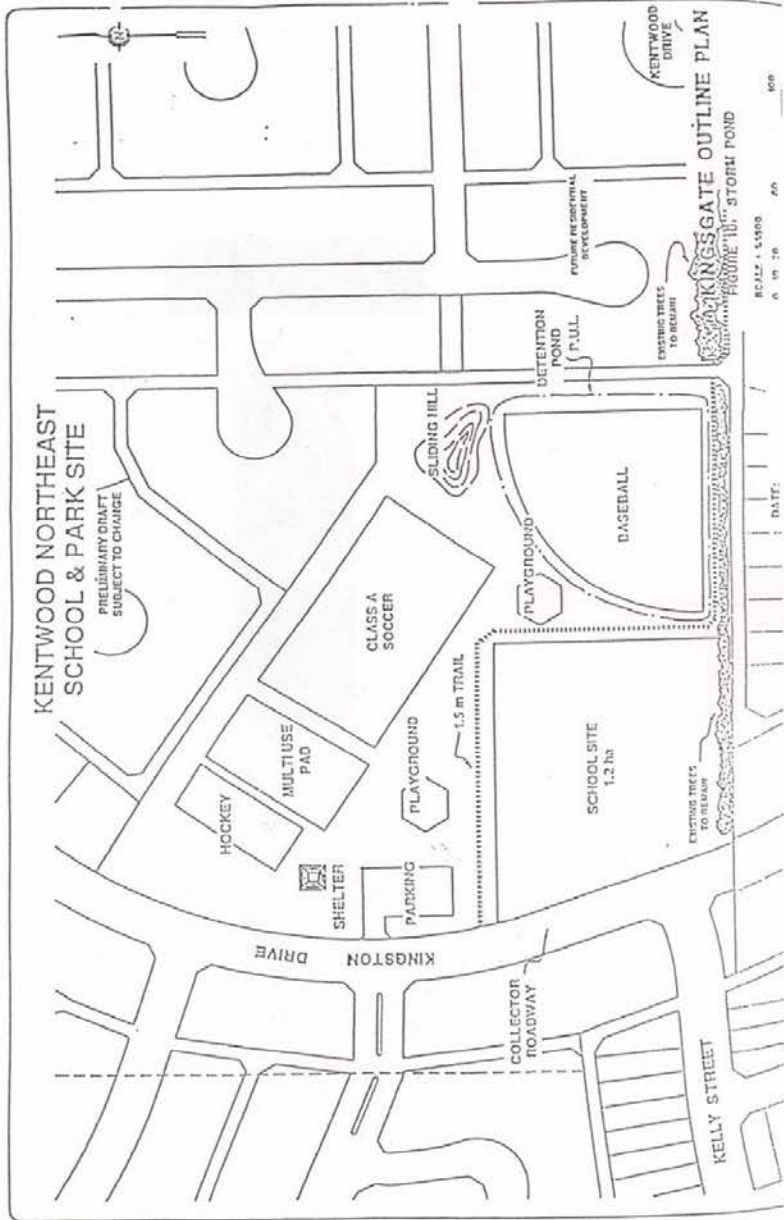
4.5 Natural Gas

Atco Gas advises that they will be able to service the proposed development by extending their existing distribution facilities.

5.0 Staging and Development

Figure 10 shows the proposed staging of development. The area labeled “Existing Development” has been serviced as of the end of 2002. The location of existing utilities dictates phases of development. Market conditions will influence the actual phasing of later developments.

APPENDIX A



**KENTWOOD NORTHEAST
SCHOOL & PARK SITE**

PRELIMINARY DRAFT
SUBJECT TO CHANGE

KINGSGATE OUTLINE PLAN

FIGURE 10. STORM POND

SCALE 1:5500

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APPENDIX B

