

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN



May, 2017



CITY OF
Lethbridge

Approved by the Municipal Planning Commission May 30, 2017

**SHERRING BUSINESS AND
INDUSTRIAL PARK
OUTLINE PLAN**



Prepared for:
City of Lethbridge

Prepared by:
Brad Schmidtke

**Approved by the Municipal Planning Commission - July 6, 2004
Amended by the Municipal Planning Commission - April 11, 2006
Amended by the Municipal Planning Commission – May 30, 2017**

May 19, 2017

Table of Contents

1.0	INTRODUCTION	1
1.1	INTENT	1
1.2	PLAN LOCATION AND LAND OWNERSHIP	1
1.3	PLANNING CONTEXT.....	2
1.4	PUBLIC PARTICIPATION.....	3
2.0	EXISTING CONDITIONS	4
2.1	SITE CHARACTERISTICS.....	4
2.2	ST. MARY'S RIVER IRRIGATION DISTRICT CANAL	4
2.3	TECHNICAL REVIEWS.....	4
2.3.1	Historical Resources.....	4
2.3.2	Traditional Resources Overview	5
2.3.3	Biophysical Impact Assessment.....	5
2.3.4	Geotechnical Evaluation	6
2.3.5	Wetland Assessment and Impact Report	6
2.3.6	Phase 1 Environmental Site Assessment	6
2.3.7	Environmental Construction Operations Plan	7
2.3.8	Traffic Impact Assessment	7
3.0	LAND USE CONCEPT	8
3.1	OBJECTIVES.....	8
3.2	OVERVIEW.....	8
3.3	LAND USE DESIGNATIONS	10
3.3.1	Business Industrial	10
3.3.2	General Industrial	10
3.3.3	Heavy Industrial.....	10
3.3.4	General/Heavy Industrial	11
3.3.5	Highway Commercial.....	11
3.3.6	Emergency Services.....	11
3.3.7	Direct Control.....	11
3.3.8	Open Space and Pathway System	11
3.4	SITE DESIGN AND LANDSCAPING.....	12
3.4.1	General Policies	12
3.4.2	28 th Street North Corridor	13
3.4.3	43 rd Street North Corridor.....	13

SHERRING BUSINESS AND INDUSTRIAL PARK
OUTLINE PLAN

4.0	CIRCULATION NETWORK.....	15
4.1	ROADWAYS AND ACCESS POINTS.....	15
4.2	ROAD ADDITIONS, EXTENSIONS AND REMOVALS.....	16
4.2.1	36 th Street North	16
4.2.2	37 th Street North	17
4.2.3	44 th Avenue North (Cavendish Road)	17
4.2.4	28 th Street North	17
4.2.5	39 th Street North	17
4.2.6	43 rd Street North	17
4.3	RAIL LINE EXTENSION.....	18
4.4	PATHWAY NETWORK.....	18
4.5	INDUSTRIAL PARK ENTRANCE FEATURES AND GATEWAYS.....	19
4.6	TRANSIT.....	19
4.7	COMMUNITY MAILBOXES.....	20
5.0	UTILITY SERVICING.....	21
5.1	WATER SUPPLY AND DISTRIBUTION	21
5.2	WATER SUPPLY FOR FIRE PROTECTION.....	22
5.3	SANITARY SEWER COLLECTION SYSTEM.....	22
5.4	STORM WATER MANAGEMENT SYSTEM	22
6.0	DEVELOPMENT IMPLEMENTATION	29
6.1	REZONING AND SUBDIVISION.....	29
6.2	AMENDING THE PLAN.....	29

LIST OF APPENDICES

APPENDIX A	Certificates of Titles
APPENDIX B	Historical Resources Clearances
APPENDIX C	Traditional Resources Overview
APPENDIX D	Biophysical Impact Assessment
APPENDIX E	Geotechnical Evaluation
APPENDIX F	Wetland Assessment and Impact Report
APPENDIX G	Phase 1 Environmental Site Assessment
APPENDIX H	Environmental Construction Operations Plan
APPENDIX I	Transportation Impact Assessment

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

1.0 INTRODUCTION

The Sherring Business and Industrial Park was developed to address growth and demand in the commercial, business and industrial sectors, consistent with the City of Lethbridge economic development objectives. An inventory of serviced and serviceable land is kept by the City, to accommodate the relocation of existing businesses or attraction of new commercial, business or industrial facilities to the community. To facilitate the current and future demand, the Sherring Business and Industrial Area Structure Plan allocates lands into a mix of commercial and industrial (business, general and heavy) development. A transition of land uses or landscape buffer will minimize impacts on residential areas by ensuring adequate separation between residential development and the heavy industrial area.

1.1 INTENT

The Sherring Business and Industrial Park Outline Plan (hereinafter referred to as the Sherring Outline Plan) was first adopted by the Municipal Planning Commission on July 6, 2004. Its purpose is to provide a detailed planning framework for the development of the Sherring Business and Industrial Park in northeast Lethbridge. In 2006, the Sherring Outline Plan was amended to allow for the development of large format retail uses at the intersection of 26th Avenue North and 28th Street North.

The most recent amendment occurred in 2017 when the City of Lethbridge Real Estate and Land Department initiated an amendment to the Sherring Outline Plan to expand its boundaries and allow the development of additional Commercial, General and Heavy Industrial Development to the north of the 44th Avenue (Cavendish Road) North. This amendment to the Outline Plan was approved by the Municipal Planning Commission on May 30, 2017.

The Sherring Outline Plan and its subsequent amendments respond to the demands of current and future industrial and commercial requirements in the City of Lethbridge. **Refer to Figure 1.1~ Location Plan.**

1.2 PLAN LOCATION AND LAND OWNERSHIP

The Sherring Outline Plan area is located in northeast Lethbridge, encompassing an area of some 380.38 hectares (939.94 acres). The Sherring Outline Plan area includes:

- the SW & SE ¼ Sec. 21-9-21-W4M,
- Sec. 16-9-21-W4M

The Sherring Outline Plan area is physically bounded by 26th Avenue North and existing industrial development to the south, 28th Street North and the Uplands, BlackWolf and future Royal View neighbourhoods to the west, future industrial development to the north, and 43rd Street North and Lethbridge County to the east. **Figure 1.1-Location Plan** illustrates the Plan boundaries. The City of Lethbridge owns the majority of lands within the boundaries of the Sherring Outline Plan.

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

Ownership information is shown in **Figure 1.2 – Land Ownership**. Certificates of Titles for lands in the amendment areas are contained in **Appendix A Certificates of Title**.

1.3 PLANNING CONTEXT

The Sherring Outline Plan (OP) has been prepared within the context of the City of Lethbridge's planning hierarchy. The Outline Plan complies with the *South Saskatchewan Regional Plan (SSRP)*, which has been adopted by the Province to achieve specific environmental, social and economic outcomes in the region of Southern Alberta defined by the South Saskatchewan River Basin. Municipalities within this region, of which Lethbridge is a part of, are required to ensure that their planning documents are in compliance with this regional plan. A few key SSRP strategies are applicable to the Sherring Outline Plan, as municipalities are expected to:

- Explore and present potential new approaches to draw on the rich cultural, ecological, and traditional land-use knowledge and stewardship practices of aboriginal communities (SSRP -7.2).
- Consider the value of intermunicipal development planning to address land use on fringe areas, airport vicinity protection plans or other areas of mutual interest (SSRP - 8.7).
- Provide an appropriate mix of agricultural, residential, commercial, industrial, institutional, public and recreational land uses; developed in an orderly, efficient, compatible, safe and economical manner (SSRP - 8.11).
- Contribute to a healthy environment, a healthy economy and a high quality of life (SSRP - 8.12).
- Provide a wide range of economic development opportunities, stimulate local employment growth and promote a healthy and stable economy. Municipalities are also expected to complement regional and provincial economic development initiatives (SSRP - 8.13)
- Minimize potential conflict of land uses adjacent to natural resource extraction, manufacturing and other industrial developments (SSRP - 8.15).

The Sherring Outline Plan also complies with the most recent version of the City of Lethbridge Integrated Community Sustainability Plan / Municipal Development Plan (ICSP/MDP), which identifies the area contained within the Sherring Outline Plan as being primarily for existing industrial and future industrial uses. Policies within the ICSP/MDP also state that the City should encourage and promote an adequate supply of land that is planned and available for servicing to meet market demand and that Area Structure Plans and Outline Plans are completed prior to the development of new areas. Likewise The City of Lethbridge / Lethbridge County Intermunicipal Development Plan (IDP) also recognizes the Outline Plan area as being primarily for existing industrial and future industrial use. The IDP also specifies that Lethbridge County will be circulated Outline Plan applications and amendments. This has occurred under the process used for this

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

Outline Plan and comments received from the County have been considered in preparing this Outline Plan amendment.

The Sherring Area Structure Plan (ASP) sets the policy framework for this Outline Plan and the entire Sherring Business and Industrial Park. On a conceptual level, it designates the area contained within the Sherring Outline Plan for a range of industrial development, including Business Industrial, General Industrial and Heavy Industrial. Regional Commercial and Sports Fields are also designated in this plan. In addition to land use, the Sherring ASP also identifies:

- Development Constraints;
- Measures to reduce conflicts between adjacent land uses;
- The major road network;
- The provision of municipal services and infrastructure;
- Development phasing and implementation;
- Subsequent planning steps;

The Sherring Outline Plan further expands upon the concepts and policies that are presented in the ASP at a more detailed and implementable level.

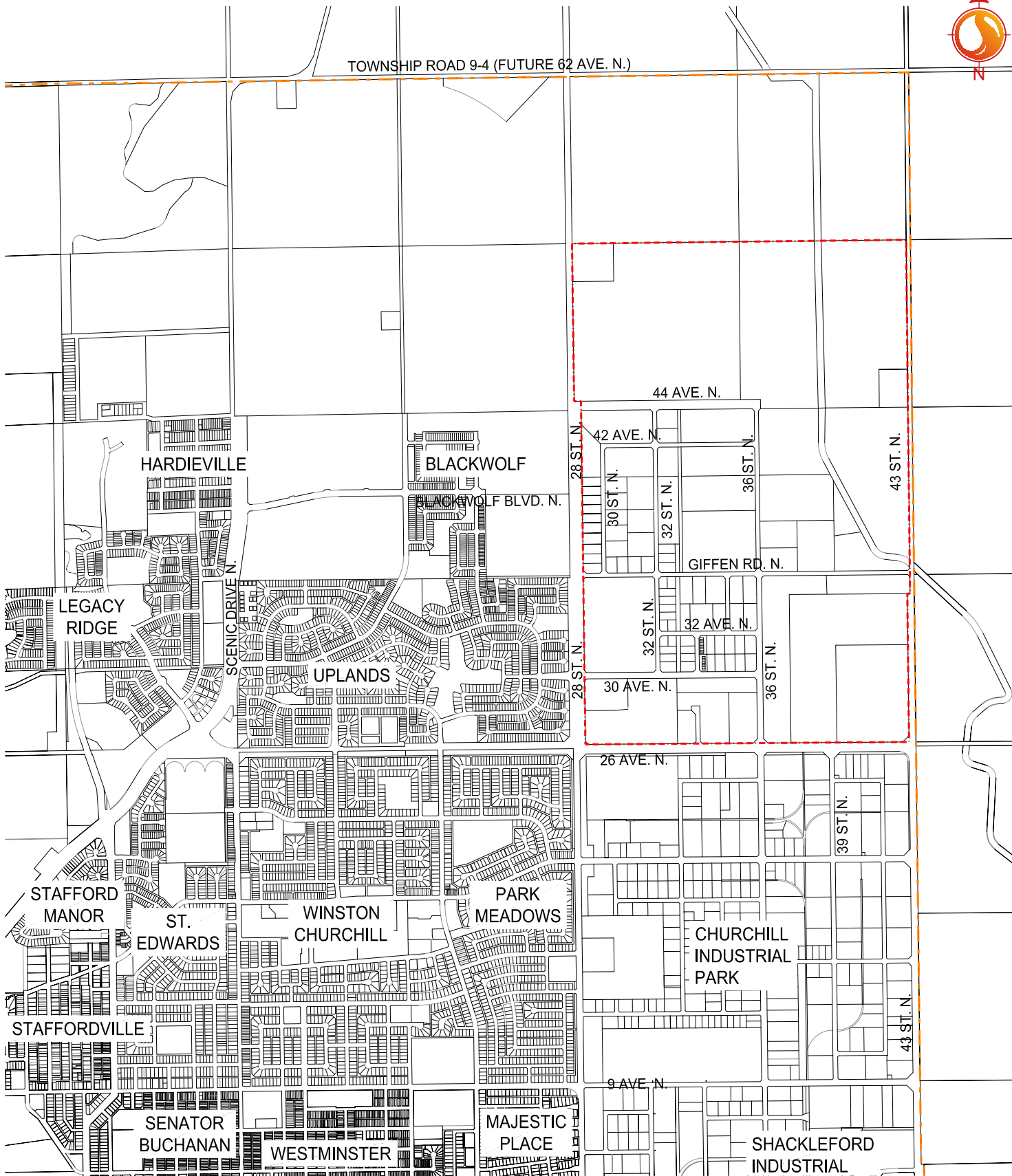
1.4 PUBLIC PARTICIPATION

Public participation has occurred in the preparation of the Sherring ASP and the Sherring Outline Plan, through adherence to legislated notification and advertising processes, as well as additional Open Houses and information sharing. Public input was sought at an Open House for the ASP on December 10, 2003 and an Open House for the Sherring Outline Plan was held on June 23, 2004.

The most recent Outline Plan amendment was presented to the public at an Open House held at the Tecconnect building on February 9, 2017. Feedback from these Open Houses has been considered where possible to do so.



TOWNSHIP ROAD 9-4 (FUTURE 62 AVE. N.)



NTS

Legend

- - - Outline Plan Boundary
- - - City Boundary

SHERRING BUSINESS & INDUSTRIAL PARK | FIGURE 1.1



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May 18, 2017

Location Plan

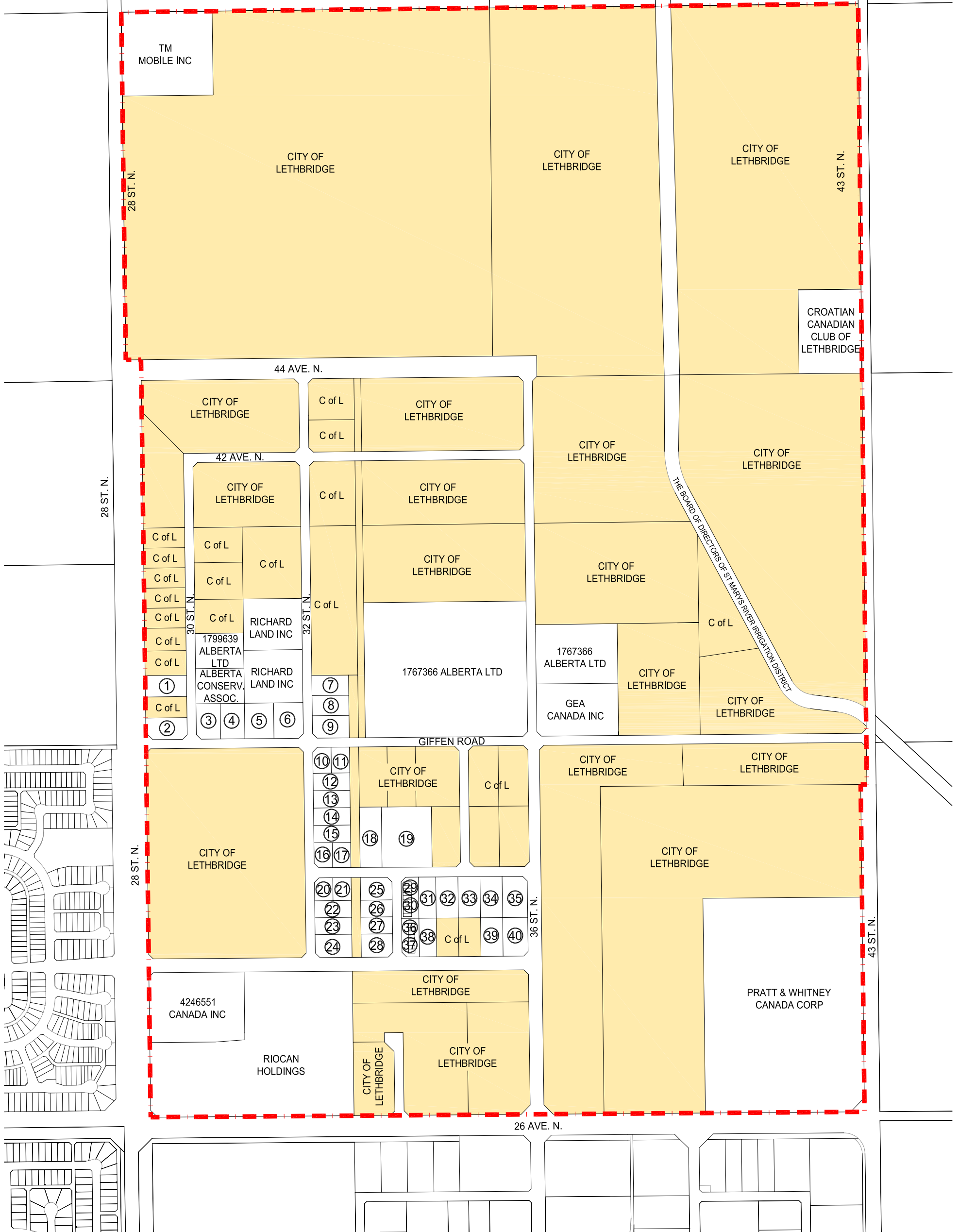
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1. WHIPCORD LTD
2. 1420011 ALBERTA LTD
3. AVONLEA LAND CORP LTD
4. STANGTECH HOLDINGS LTD.
5. DUANE & JOANNE THOMPSON
6. WJB HOLDINGS LTD.
7. CCK SNOW REMOVAL & CUSTOM SPAYING LTD.
8. 1103882 ALBERTA LTD
9. 1739468 ALBERTA LTD
10. AXIS HOLDINGS LTD
11. AXIS HOLDINGS LTD

12. AXIS HOLDINGS LTD
13. AXIS HOLDINGS LTD
14. URBANEX ENTERPRISES LTD
15. THE GREY GOAT LTD
16. 1574183 ALBERTA LTD
17. URBANEX ENTERPRISES LTD
18. GRIFFIN OILFIELD CONSULTING LTD
19. 414635 ALBERTA LTD
20. JOSA HOLDINGS LTD
21. JOSA HOLDINGS LTD
22. CHALLENGER BUILDING SUPPLIES LTD
23. CHALLENGER BUILDING SUPPLIES LTD

24. CHALLENGER BUILDING SUPPLIES LTD
25. 1384811 ALBERTA LTD
26. GEORGE GIESBRECHT
27. P.T.V. HOLDINGS LTD
28. ENCHANTED DESIGNS LTD
29. CHO'S HOLDING LTD
- 30.
31. CONDOMINIUM CORPORATION NO 1411118
32. CONDOMINIUM CORPORATION NO. 1412963
33. 1613256 ALBERTA LTD

34. WCJJ INVESTMENTS CORP
35. 1786566 ALBERTA LTD
36. CONDOMINIUM CORPORATION NO. 1512200
37. D & M GRENIER HOLDINGS LTD
38. 1478964 ALBERTA LTD
39. SOUTHERN MONUMENT AND TILE COMPANY LTD
40. 1922476 ALBERTA LTD



2.0 EXISTING CONDITIONS

2.1 SITE CHARACTERISTICS

The portion of the Sherring Outline Plan that lies between 26th Avenue North and 44th Avenue (Cavendish Road) North is currently partially developed. Some existing major uses in the Sherring Business and Industrial Park include a manufactured home factory, an airplane engine manufacturer, a GIS technology company, large format retail uses and a major outdoor recreation facility. The area located to the north of 44th Avenue (Cavendish Road) North that is subject to the most recent amendment is currently under agricultural production.

A number of utility facilities are also currently located in the plan area. A 138kV power line, located within a 20.0 m R.O.W., traverses the plan area, running north/south from 26th Avenue North to a substation that is located adjacent to 44th Avenue (Cavendish Road) North. A second 138kv power line runs east/west from this substation to 28th Street North. An existing irrigation canal (St. Mary River Irrigation District) runs through part of the plan area in a north/south direction and a high-pressure natural gas pipeline runs adjacent to 43rd Street North in this same direction. A cellular phone tower is also located in the northwest corner of the plan area.

Topographically, the Plan area has level to gently sloping terrain. The majority of the ASP area drains naturally to the east and northeast. Surface elevations fall gradually from an elevation of 916 metres above sea level in the southwest corner of the plan area to 906 metres above sea level in the northeast corner of the plan area.

2.2 ST. MARY'S RIVER IRRIGATION DISTRICT CANAL

During plan preparation, ongoing stakeholder discussions were held on a bi-weekly basis with SMRID regarding relocation of their existing canal. This existing canal bisects the NE quarter of the plan area and impacts expansion of storm water management facilities. The existing canal is also affecting natural drainage to the NE and during operation impacts the adjacent lands ground water conditions. The canal's relocation is necessary to optimize infrastructure, use land efficiently and maximize the economic return of the land. In addition, industrial development adjacent to the canal in its current location will be affected by ongoing drainage and sub surface water problems. The canal will be relocated to a pipe system along 43rd Street.

2.3 TECHNICAL REVIEWS

2.3.1 Historical Resources

The original Historical Resources Act clearance for development in the Sherring Outline Plan area was granted by Alberta Culture on June 11, 2004, under Section 31 of the Historical Resources Act. With that clearance, no formal Historical Resources Impact Assessment for either archaeological or paleontological resources was required under provincial legislation.

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

A request for Historic Resources clearance for the newly added lands in the Outline Plan area was submitted on March 10, 2017 and was approved on April 25, 2017. Regardless of clearances being granted, standing requirements under the Historical Resources Act for reporting the discovery of historic resources during the course of development activities will be adhered to. If, at any point during the future study or development of the plan area, any historic resources are discovered, Alberta Culture must be notified. In such an event, Alberta Culture will determine what, if any, additional assessment, salvage, preservation or protective measures may be required." Refer to [Appendix B Historical Resources Clearances](#) for documentation of the above.

2.3.2 Traditional Resources Overview

A Traditional Knowledge and Use Assessment was conducted in January 2017 in consultation with Elders from the Kainai Nation (Blood Tribe). The Overview concluded that although the Outline Plan area is within traditional Blackfoot territory, no significant sites were identified and development in the area will not have a deleterious impact on traditional knowledge or resources for the Blackfoot people or the historical record. Therefore, no recommendations or conditions have been identified. Refer to [Appendix C Traditional Resources Overview](#).

2.3.3 Biophysical Impact Assessment

Tetra Tech EBA Inc. issued a Biophysical Impact Assessment for review in November, 2016 which indicated that this project has the potential for reduced topsoil quality, loss of wetlands, loss of Vegetation Elements of Management Concern (VEMC), introduction and the spread of weeds and invasive species, and mortality of wildlife during breeding season. For these reasons, the following mitigation measures are recommended:

- Salvage topsoil to the greatest extent feasible and utilize in landscaping for future development within the Project Footprint;
- Develop an erosion and sediment control plan to limit the loss of soil integrity;
- Avoid or minimize loss of wetland area to the greatest extent feasible;
- Obtain an Approval under the *Alberta Water Act* (Province of Alberta 2000b), where avoidance of wetland areas cannot be achieved;
- Conduct a survey for migratory birds and Species of Management Concern (SOMC) as directed by a qualified wildlife biologist if constructing during the breeding season (i.e., April 15 to August 31, annually);
- Ensure that construction traffic adheres to posted traffic speed to reduce the risk for collision with wildlife.

For details, refer to [Appendix D Biophysical Impact Assessment](#).

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

2.3.4 Geotechnical Evaluation

A Geotechnical Evaluation was prepared in October, 2016 by Tetra Tech EBA Inc. Nothing of significance was identified and normal design and construction guidelines apply. For further information, refer to [Appendix E Geotechnical Evaluation](#).

2.3.5 Wetland Assessment and Impact Report

Tetra Tech EBA Inc. issued a Wetland Assessment and Impact Report for use in November 2016 that is included in [Appendix F Wetland Assessment and Impact Report](#). The report indicates the presence of two waterbodies within the outline plan area – one located west of 43 Street N and the other adjacent to the irrigation canal. The proposed project development will result in the permanent loss of the two identified wetland areas. This will result in the loss of associated hydrological storage capacity for surface run off, and minor loss of potential breeding habitat for amphibians, waterfowl, songbirds, and waterbirds.

Impacts to these wetlands cannot be avoided, and therefore the following mitigation recommendations should be considered during detailed design:

- Impact Avoidance – the extent of the industrial development will be confined to the project plan area thus minimizing impact to other non-compatible land uses and sensitive environmental resources elsewhere.
- Impact Minimization –
 - Development of a stormwater management system for the project will be registered in accordance with the Environmental Protection and Enhancement Act;
 - A nest sweep will be conducted within three days prior to construction in the wetlands areas by a qualified wildlife biologist if construction is scheduled to occur within the migratory bird breeding season (April 15 to August 31); and
 - All equipment entering or leaving the project area will be clean and free of soil and vegetation debris to prevent introduction of weeds or invasive, non-native species
- Wetland Replacement – will be managed through a compensation strategy at the Subdivision and Development stage that is in accordance with provincial requirements.

2.3.6 Phase 1 Environmental Site Assessment

The Phase 1 Environmental Site Assessment completed for use by Tetra Tech EBA Inc. in October, 2016 and recommended the following:

- When fill material is disturbed during future site development, it should be characterized prior to re-use or removal from the site

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

- If buried debris or soil staining is encountered during future site development, a qualified environmental professional should be contacted
- Any disturbance to a surface waterbody should be done in accordance with the Alberta Water Act.

For more detail, refer to [Appendix G Phase 1 Environmental Site Assessment](#).

2.3.7 Environmental Construction Operations Plan

The ECO Plan issued for use by Tetra Tech EBA Inc. in December, 2016 provides a methodology and framework to address contractual and regulatory requirements, provides operations and emergency procedures, implementation of structure and responsibilities, and corrective actions through monitoring during site-specific work activities. The ECO will become a key component in the Tender Contracts. For further details refer to [Appendix H Environmental Construction Operations Plan](#).

2.3.8 Traffic Impact Assessment

The Traffic Impact Assessment has been included in [Appendix I Traffic Impact Assessment](#). See Section 4.0 for summary of road, rail and pedestrian planning for Sherring.

3.0 LAND USE CONCEPT

3.1 OBJECTIVES

The objectives of the Sherring Outline Plan are:

- To guide urban industrial development in an orderly and economical manner;
- To provide a detailed description and illustration that guides subsequent rezoning, subdivision, and development;
- To provide a regional commercial site to meet market demand;
- To strategically locate a major Sports and Recreation Facility in order to best serve the community;
- To respect existing urban development and to facilitate a smooth transition from residential to commercial and industrial use;
- To develop unique servicing alternatives that are both economically and environmentally feasible.

The amended Land Uses to achieve these objectives are shown in **Figure 3.1 – Land Use Concept**.

3.2 OVERVIEW

The form and character of the Sherring Business and Industrial Park was designed to take advantage of greenspace and various methods of transitioning from residential to other more intensive land uses. Commercial development is strategically located along 26th Avenue North and may be located adjacent to 28th Street North while the balance of the Outline Plan area will contain primarily industrial development, with a transition from business industrial, to general industrial and finally heavy industrial, as you move north and east. The allocation of land use is shown in **Table 3.1**.

**SHERRING BUSINESS AND INDUSTRIAL PARK
OUTLINE PLAN**

Table 3.1		
Use	Total Area Ha	%
Gross Area	380.38 Ha	100
Undevelopable Lands	0	0
Gross Developable Lands	380.38 Ha	100
Subtotal Highway Commercial	13.95 Ha±	3.67
Industrial		
Heavy Industrial	72.81 Ha±	19.14
General Industrial / Heavy Industrial	157.54 Ha±	41.42
General Industrial	29.53 Ha±	7.76
Business Industrial	26.46 Ha±	6.96
Subtotal Industrial	286.34 Ha	75.28
Subtotal Sports Fields	15.70 Ha±	4.13
Other Uses		
Storm Water Management Facilities (SWMF)	17.65 Ha±	4.64
SWMF Buffer	2.09 Ha±	0.55
Rail Line ROW	4.69 Ha±	1.23
Power Sub-station	1.08 Ha±	0.28
Circulation	24.88 Ha±	6.54
N-S Power Line ROW	2.26 Ha±	0.59
28 th St. North Road Widening (18m)	2.56 Ha±	0.67
43 rd St. North Road Widening (38.4m)	6.19 Ha±	1.63
Communication Tower	2.99 Ha±	0.79
Subtotal Other Uses	64.39 Ha±	16.92
Total	380.38 ha±	100

3.3 LAND USE DESIGNATIONS

3.3.1 Business Industrial

Business Industrial development will comprise approximately 26.46 ha (65.38 acres) or 6.96% of the Gross Developable Area and will act as the key transition use between existing and planned residential development to the west, and future general and heavy industrial development to the east. Business Industrial development typically includes light industrial, warehousing and limited commercial uses. It is likely that a majority of the lots designated for Business Industrial development will be in the range of 0.2 to 1.2 ha (0.5-3.0 acres) in size.

3.3.2 General Industrial

General Industrial development, comprising approximately 29.53 ha (72.97 acres), or 7.76% of the Gross developable Area, may include a range of uses, including manufacturing, processing, distribution and storage uses and related services. It is likely that a majority of the lots designated for General Industrial development will be in the range of 0.4 to 2.0 ha (1.0-5.0 acres) in size, but may be larger depending on user needs and demands.

I-G, General Industrial is the most appropriate district under the current Land Use Bylaw (#5700) for areas shown as General Industrial in this Outline Plan. Direct Control (DC) districts may also be used under certain circumstances, as long as the General Industrial nature of the potential development is maintained.

3.3.3 Heavy Industrial

Heavy Industrial development, comprising of approximately 72.81 ha (179.92 acres), or 19.14% of the Gross Developable Area, is the predominant land use within the Outline Plan area, and may include a range of intensive manufacturing uses. Heavy Industrial development is typically seen as the least compatible with residential development, and therefore has the greatest level of separation from residential development, with an appropriate scaling down of industrial uses as you move towards the residential area. It is likely that a majority of the lots designated for Heavy Industrial development will be in the range of 4.0 to 6.0 ha (10.0-15.0 acres) in size, however, the Land Use Concept has been designed to allow for the development of a small number of 6.0 to 24.0 ha (15.0 -60.0 acres) Heavy Industrial lots if necessary.

I-H, Heavy Industrial is the most appropriate district under the current Land Use Bylaw (#5700) for areas shown as Heavy Industrial in this Outline Plan. Direct Control (DC) districts may also be used under certain circumstances, as long as the Heavy Industrial nature of the potential development is maintained.

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

3.3.4 General/Heavy Industrial

In total, approximately 157.54 ha (389.29 acres), or 41.42% of the Gross Developable Area has been designated for either General or Heavy Industrial land uses within the Sherring Business and Industrial Park. It is intended for land uses that are found in the General/Heavy Industrial area of this Outline Plan to be developed under site-specific guidelines due to the importance of issues such as landscaping and site design in this location and its relative proximity to nearby residences. Therefore, **DC, Direct Control** is the most appropriate district under the current Land Use Bylaw (#5700) for any future development that is proposed in the General/Heavy Industrial area. Under a proposed DC district, a range of General or Heavy Industrial land uses will be included as either permitted or discretionary uses.

Retail development may also be allowed under this district, subject to specific considerations and regulations at the time of development including an amendment to the ASP.

3.3.5 Highway Commercial

A regional commercial site, comprising of approximately 13.95 ha (34.47 acres) or 3.67% of the Outline Plan area, is to be located east of 28 Street North between 30 Avenue North and 26 Avenue North. This location will ensure high visibility and ease of access for residents of Uplands and surrounding neighborhoods as well as for industrial park employees, businesses and visitors to the Major Sports and Recreation Facility. Access to the commercial site can be accommodated from 26th Avenue North, 28th Street North, and 30th Avenue North.

3.3.6 Emergency Services

There is one future Fire/EMS station to be located within the Sherring Business and Industrial Park; located at the intersection of 28th Street North and 44th Avenue (Cavendish Road) North. This site location is a placeholder at this time and is aligned with the strategic priorities of Fire/EMS department and will meet their future operational requirements.

3.3.7 Direct Control

DC – Direct Control zoning is often used to establish unique or specific development standards or to deal with non-typical development proposals. DC zoning may be appropriate in some areas of the Plan in order to accommodate specific uses, site standards, or development controls. Use of DC Zoning would not necessarily require an amendment to this plan, if it was in keeping with the intent of the existing shown land use.

3.3.8 Open Space and Pathway System

The open space system in the Sherring Outline Plan is comprised of three key elements, as shown in Figure 5. This system consists of an integrated pathway network connecting local amenities, businesses and the large format retail site, a Major Sports and Recreation Facility, which has been developed as a sports fields complex, and landscape buffering along the east side of 28th

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

Street North and the west side of 43rd Street North. Under the Municipal Government Act, the developer is required to provide a maximum of 10% of the total area as municipal reserve land or as cash in lieu. As the Sherring Business and Industrial Park has limited need for school grounds and parks, the required municipal reserve will be paid by the developer through cash-in-lieu and will be used to provide school grounds and parks elsewhere in the community, where they meet the needs of residents.

3.4 SITE DESIGN AND LANDSCAPING

3.4.1 General Policies

In order to foster the sustainable use of resources, the use of grey-water, collected stormwater and irrigation water - as opposed to treated, potable water - is encouraged to be used to irrigate on-site trees, shrubs, planting beds and grass.

The use of landscaping, plants and trees on both private and public land is important in the Sherring Business and Industrial Park to promote an aesthetically pleasing appearance. Wherever space permits, trees and shrubs should be planted in groups or stands and any trees or plants that are used in landscaping must be sited so as not to impede site lines or visibility of public roadways, private driveways and intersections. To avoid monoculture, it is ideal that a blend of deciduous and coniferous tree and plant varieties, at or near 50/50 ratio should be used in landscaping. Plant species should be chosen based on factors such as regional climatic conditions, constraints of location, effectiveness in screening (if that is their purpose), resistance to disease and insect attack, cleanliness, appearance and ease of maintenance. It is intended that any landscaping approved in a development permit should be maintained for the life of the development.

To reduce light spillover onto neighbouring properties (particularly where there are existing or future adjacent residences), site lighting is encouraged to incorporate “night sky compliant” lighting or use fixtures that focus light towards the ground or the intended target. Railway lines and loading areas will be setback and screened from adjacent collector and arterial roadways and this screening can be accomplished through landscaping (i.e. trees and shrubs) or fencing.

Multi-modal transportation options are an important aspect of the Sherring Business and Industrial Park. As stated in section 4.4 the area will contain a considerable pathway and walkway network within the public road right of way. In order to derive the largest benefit from this network it is also important that pedestrians and cyclists have direct access to the public right of way without having to cross large expanses of parking lots, loading areas or uneven terrain. Therefore, a continuous barrier-free asphalt or similar material pedestrian pathway or walkway shall connect the main entrance(s) of the main building(s) on a parcel to an adjacent street sidewalk or pathway if there is one present or planned in the public right of way. This pathway or walkway shall be shown on the site plan that is submitted at the Development Permit stage.

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

3.4.2 28th Street North Corridor

Landscape Buffer and Frontage– In order to facilitate the transition from residential development (Uplands, Blackwolf and Royal View) to commercial and industrial development, a buffering or screening mechanism is necessary. This will take the form of a landscaped buffer strip 20 to 30 metres in width along the western edge of 28th Street North. This green corridor will provide visual and physical buffer between residences to the west of 28th Street North and the Sherring Business and Industrial park and will be contained within the prescribed 75.0 metre right of way for 28th Street North. An asphalt trail and tree/shrub plantings will also be installed within this right of way, as per City standards.

Areas that are shown on **Figure 3.1 – Land Use Concept** of this Outline Plan as General/ Heavy Industrial and are adjacent to 28th Street North which are developed as industrial shall also include a landscaped setback on private land that is a minimum of 30 metres in width. Landscaping shall consist of vegetation such as trees, shrubs, planting beds, grass and ground cover or xeriscaping/xerigardening. A berm to effectively screen General and Heavy Industrial uses from the future residential neighbourhood to the west shall also be constructed on private land as part of this landscaped setback. Primary buildings, accessory buildings, garbage enclosures and outdoor storage areas shall not be located within the 30 metre landscaped setback that is adjacent to 28th Street North, however vehicular access and parking lots may project into this setback if they are paved and include parking islands that are properly landscaped.

While identified as Heavy/General Industrial, there is a potential for the area adjacent to 28th Street North to be developed as Commercial. If this zoning is implemented, there is no requirement for additional landscaping or screening beyond what the requirements for Highway Commercial are in Land Use Bylaw 5700 or a future document.

Specific requirements in terms of on-site landscaping and the berm will be determined at the time of development by the Development Authority or will be described in the Direct Control (DC) land use district that is used for the parcel in question. These requirements will be outlined in a landscape plan submitted to the Development Authority for approval at the Development Permit stage.

The Major Sports and Recreation Facility also serves to provide a buffer between residential and industrial development.

3.4.3 43rd Street North Corridor

Landscape Buffer and Frontage – 43rd Street North will serve as an important gateway into the City when the CANAMEX highway is constructed north of the current City boundary in the future. While recognizing that adjacent development is industrial in nature, it is important to maintain 43rd Street North as an attractive and aesthetically pleasing entryway to the community. As with 28th Street North, 43rd Street North will provide a visual amenity to the business and industrial park and will include an asphalt trail and tree/ shrub plantings within its right of way.

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

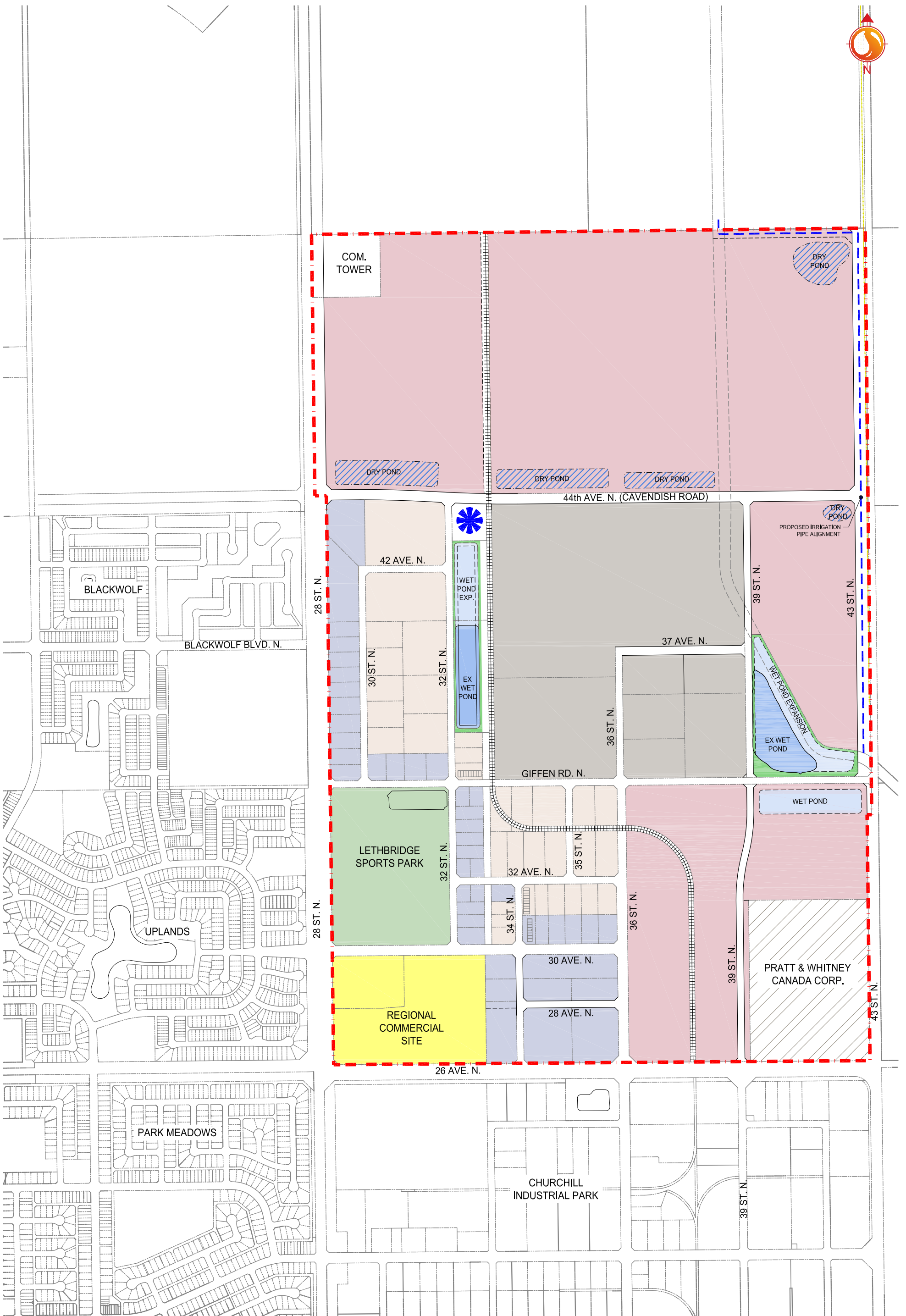
Areas that are shown on **Figure 3.1 – Land Use Concept** of this OP as General/Heavy Industrial and are adjacent to 43rd Street North shall also extend this landscaped buffer strip onto private land for a minimum of 30 metres and incorporate it into their overall site design when the parcel is developed. Landscaping shall consist of vegetation such as trees, shrubs, planting beds, grass and ground cover or xeriscaping/xerigardening. Primary buildings, accessory buildings, garbage enclosures and outdoor storage areas shall not be located within the 30 metre landscaped setback that is adjacent to 43rd Street North, however vehicular access and parking lots may project into this setback if they are paved and include parking islands that are properly landscaped.

Instead of constructing a berm, as is intended along 28th Street North, buildings and landscaped setbacks will be brought towards 43rd Street North, while receiving areas, laydown yards and outdoor storage will be located behind these buildings towards the interior of the site. The appearance of buildings that are adjacent to 43rd Street North shall incorporate exterior designs that encourage visual breaks in the wall and discourage monolithic facades where possible. Recognizing that this development is industrial in nature, features that can help to achieve these goals include projection, recession, parapets, reveals, articulation, design finish, outcrops, and the inclusion of windows, paint lines, varying roof lines and/or a combination of exterior building materials.

Specific requirements in terms of on-site landscaping and building design will be determined at the time of development by the approval authority or will be described in the Direct Control (DC) land use district that is used for the parcel in question.



Example of local industrial use along 43rd Street North that effectively utilizes landscaping and building design. The building incorporates multiple exterior building materials, articulation and includes an extensive amount of glass. The site includes a variety of tree and plant species that are appropriate for the local climate and a hard-surfaced parking lot.



4.0 CIRCULATION NETWORK

4.1 ROADWAYS AND ACCESS POINTS

The roadway circulation pattern for the Sherring Business and Industrial Park, comprising approximately 24.88 ha (61.48 acres) or 6.54% of the plan area, is premised on a simple grid pattern, which allows for the greatest level of internal circulation and flexibility in designing industrial developments and catering to the range of not only industrial needs (i.e. business, light and heavy industrial), but to commercial needs that are envisioned for the Sherring Outline Plan.

A Transportation Impact Assessment (TIA) was completed for the original Sherring Outline Plan and **Appendix I: TIA** has been completed to highlight the impacts of Sherring Industrial Site Expansion identify potential intersections treatments, signalization needs and roadway classifications. The primary all-directional and T-Intersection access points for the Sherring Outline Plan area will be from the adjacent arterial roadways which form the boundary for the Plan area. These roads include:

- 26th Avenue North runs along the southern boundary of the plan area and is designated as an urban arterial roadway, currently operating as an interim 2-Lane cross-section
- 28th Street North runs along the western boundary of the plan area and is designated as an urban arterial roadway, currently operating as an interim 2-Lane cross-section
- 43rd Street North runs along the eastern boundary of the plan area and is designated as a future urban arterial roadway, currently operating as a 2-lane rural cross-section.

Arterial roadways will be upgraded by the City of Lethbridge when warranted by traffic volume and development. Additional accesses to the arterial road network not identified in the Transportation Impact Assessment will be reviewed at the time of development permit and will only be allowed with the City of Lethbridge Transportation Department approval. Driveways that access arterial roadways may require dedicated left hand turn bays or intersection treatments including signalization. Right-In/Right-Out Intersections could be considered for driveway accesses into the industrial area.

The Sherring Industrial internal roadway network has been designed to respond to anticipated commercial and industrial land development needs. Those roads which are deemed to be necessary, and are fixed in terms of location and access points, are shown in dashed lines with no shading. The Sherring Outline Plan circulation network, as shown in **Figure 4.1 – Circulation Network**, illustrates a total of eight access points to the business and industrial park, namely:

- 39th Street North at 26th Avenue North (all-directional)
- 36th Street North at 26th Avenue North (all-directional)
- 34th Street North at 26th Avenue North (T-Intersection)
- 30th Avenue North at 28th Street North (all-directional)

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

- Giffen Road North at 28th Street North (T-Intersection)
- Giffen Road North at 43rd Street North (T-Intersection)
- 44th Avenue (Cavendish Road) North at 28th Street North (all-directional)
- 44th Avenue (Cavendish Road) North at 43rd Street North (T-Intersection)

* Note: all collector road names are based on an extension of the existing grid system and are tentative at this time - to be confirmed at subdivision stage by the City of Lethbridge.

The majority of the roads within the plan area will be developed to an industrial collector standard. However, additional cross-sections will also be utilized. Driveways providing direct access to properties in the Sherring Outline Plan area shall comply with the following spacing requirements:

- Access Points and Intersections along Arterial roads must be spaced at a minimum of 400m from other roadway intersections.
- Driveways along Super Collector roadways must be spaced at a minimum of 200m from other driveway and roadway intersection.
- Driveways along Industrial Collector roadways must be located a minimum of 60m from the edge of an Arterial roadway right-of-way.
- Driveways are generally not permitted onto Arterial roadways, but may be considered by the Transportation Business Unit on a case-by-case basis.

The size and number of accesses to any one property shall be kept to a minimum in accordance with access management practices.

The following conceptual cross-sections have been developed using City of Lethbridge Standards and are included for information. Final right-of-way widths, dimensions, drainage management systems and infrastructure will be determined at detailed design. Please refer to **Figure 4.2 – Cross Section – 28th Street North & 44th Avenue North** and **Figure 4.3 – Cross Section – 43rd Street North & 39th Street North**.

4.2 ROAD ADDITIONS, EXTENSIONS AND REMOVALS

4.2.1 36th Street North

Due to market demand, a road closure and infrastructure removals have been identified to create a large general/industrial site between 39th Street and the railway spur line south of 44th Avenue. 36th Street will no longer connect to 44th Avenue but instead turn east to connect to 39th Street via 37th Avenue. Final closures and removals shall be determined at the detailed design and Subdivision stages.

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

4.2.2 37th Street North

The creation of 37th Avenue north will provide circulation to 39th Street which will be required due to the removal of a 36th Street connection to 44th Avenue. In addition, this new corridor may allow the City to manage drainage through a public right-of-way that was previously planned to flow through easements on private parcels.

4.2.3 44th Avenue North (Cavendish Road)

Based on anticipated vehicle volumes as identified in **Appendix I: TIA**, Cavendish Road reaches the City's threshold for an arterial road way classification; however, a 4-Lane super collector with modifications is anticipated to be sufficient for this roadway with dedicated left hand turn bays at key intersections at 28th and 43rd Street (Refer to Figure 4.3). In addition, future development permit reviews should consider the need for dedicated left turn bays along 44th as warranted by future access requests to Cavendish Road referencing municipal intersection spacing standards.

4.2.4 28th Street North

The extension of the 28th Street N Arterial will be transitioned to the modified cross-section north of Giffen Road as identified on Figure 4.2. The purpose of the modification is to create a large buffer between the residential communities of BlackWolf/Royal View to the west and the Sherring Industrial park. The large open space west of the roadway will be serviced by a multi-use pathway, be landscaped with buffering treatments like trees and may include opportunities for amenities/activities pending finalization of the buffer width at detailed design.

4.2.5 39th Street North

The 39th Street corridor will be constructed to an industrial collector standard and extend from 26th Avenue N to 44th Avenue N. The road will be an important north south connection for both vehicular and pedestrian/cycling traffic with the inclusion of a multi-use pathway. The current City of Lethbridge Industrial Collector Cross-Section is included for reference on Figure 4.3, but should be considered subject to change pending final detailed design and development.

4.2.6 43rd Street North

43rd Street North is uniquely situated on the boundary of the Lethbridge County and the City of Lethbridge. Currently, this roadway operates as a rural paved cross-section north of 26th Avenue N and an urban arterial cross-section to the south. The road currently services both industrial and county residential/agricultural traffic and will be expanded to an arterial at some point in the future and provide connection to the CANAMEX Corridor.

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

Interim development of this roadway should consider the following during detailed design:

- Maintenance of existing drainage patterns with no negative downstream impacts
- Review of posted speed limits that promote safe use of this road by both the County and City
- Development of roadway widenings in the short term and long term for dedicated left hand turn bays for traffic heading north and accessing the Sherring Industrial Park

Immediate plans for roadway expansion will be west of the public right-of-way as indicated on Figure 4.3. Expansion will provide space for intersection improvements, SMRID canal relocation and surface drainage improvements. Projected traffic volumes for 43rd are identified in **Appendix I: Transportation Impact Assessment**.

4.3 RAIL LINE EXTENSION

An existing rail line that currently terminates just south of 26th Avenue North between 36th Street North and 39th Street North will be extended north into the Sherring Business and Industrial Park. The proposed rail line will be designed and constructed to CP Rail standards and will extend north across 26th Avenue North, for approximately 400 metres, before heading west for approximately 400 metres, again heading north and traveling parallel to the existing power line R.O.W. As this is the only rail access within the Sherring Business and Industrial Park, in the future it is intended for this rail line to be extended northwards to the boundary of the City Limits if necessary. Additional service sidings and spur lines can be accommodated based on the layout and will be confirmed during future subdivision and detailed design.

The proposed rail line alignment is illustrated in **Figure 4.4 – Rail Line Extension**. Railway road crossings as identified will be designed with appropriate signs, signals and arms as warranted by a thorough review of traffic volumes and sight lines at detailed design.

4.4 PATHWAY NETWORK

As shown in the Bikeways and Pathways Master Plan, it is important to maintain pedestrian and cycling connectivity throughout the plan area to encourage multi-modal transportation through the Business and Industrial Park. An integrated internal pathway network will link local amenities and employment, and allow for pedestrian and non-motorized transportation and recreational opportunities along key corridors through the business and industrial park. The primary east-west connections will be developed along the southern edge of Giffen Road North, and along 26th Avenue North and 30th Avenue North to provide access to the Regional Commercial Site. As 44th Avenue (Cavendish Road) North will be a major transportation route that connects industrial and residential areas in North Lethbridge it will also contain a pathway for its length through the Sherring Business and Industrial Park as will 39th Street.

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

In addition, the internal pathway network will connect with the City's regional trail system along 28th Street North and 43rd Street North. Regional trails within an arterial R.O.W. will be designed to current City of Lethbridge standards.

The pathway network is illustrated in *Figure 4.1 – Circulation Network*.

4.5 INDUSTRIAL PARK ENTRANCE FEATURES AND GATEWAYS

Industrial Park entrance features provide residents, as well as visitors, a means of way-finding, help to define and establish the character and sense of pride in an area, and contribute to the development of attractive industrial parks and the goals of initiatives such as Communities in Bloom. Industrial Park entrance features, if utilized, should be located near intersections with higher traffic volumes and concentrations of development.



Example of an existing Sherring Business and Industrial Park entrance feature.

Entrance Features should consider the following elements:

- Low maintenance construction materials
- Attractive Landscaping Treatments
- Appropriate Setbacks and Sightlines for vehicles, pedestrians and cyclists.
- Required Utility Installations

4.6 TRANSIT

Public Transit access to the area will be determined with the results of the ongoing Transit Master Plan and the development of the area. Transit routes are preferably placed on public collector roadways. A route may be placed on a local road either temporarily or permanently depending on the circumstance and at the discretion of the Transit Manager. Collector roadways will be designed to meet the current City of Lethbridge Design Standards to ensure adequate space and durability for transit vehicle passage.

Transit Service Criteria

- Appropriate transit routes, stops and terminals shall be determined in partnership with Lethbridge Transit.
- Transit routes within the plan area will be designed in accordance with Lethbridge Transit service standards.
- Transit routes and stop locations will be determined as the area develops and may be subject to change.

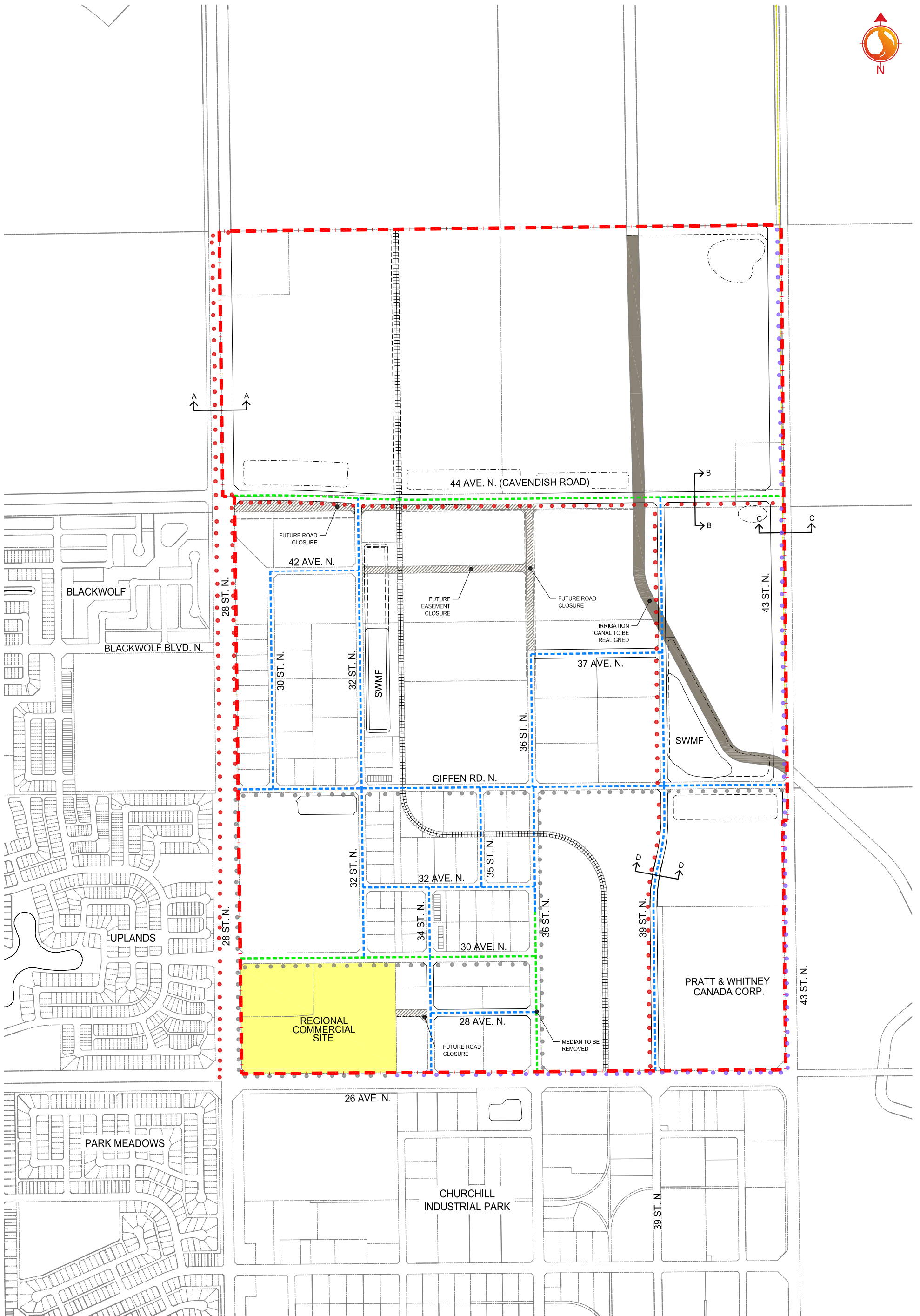
SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN











- All public transit stops and hubs shall be connected through a barrier-free sidewalk or pathway to adjacent land uses.

Transit Service Standards and Design Standards are subject to change.

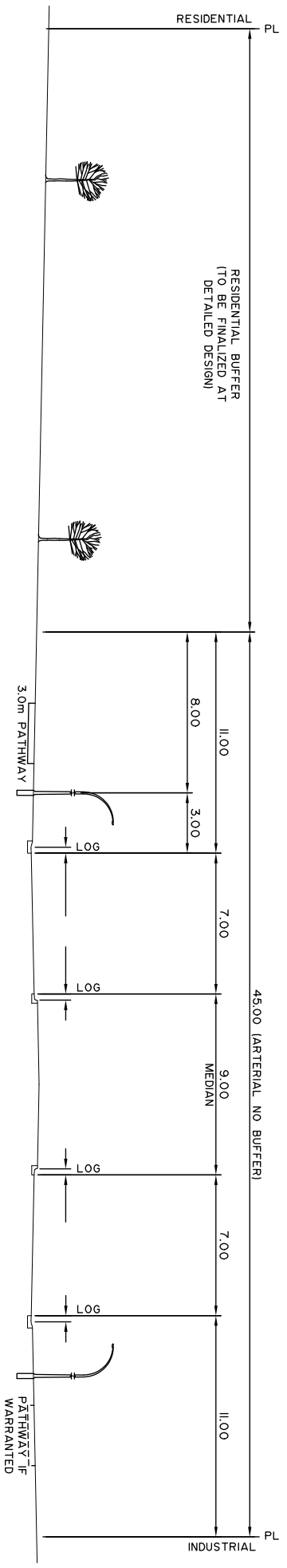
4.7 COMMUNITY MAILBOXES

The delivery of mail to new areas is achieved through the installation of community mailboxes. Installed by Canada Post at strategic locations throughout the industrial park, these facilities are intended to provide a convenient, accessible location for all property and business owners to retrieve their mail.

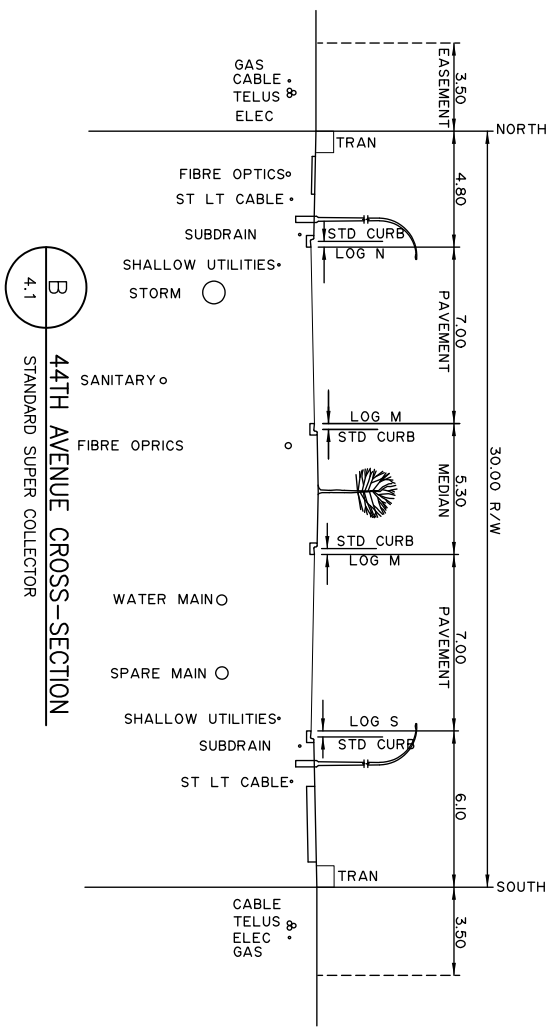


Legend			
	Outline Plan Boundary		Existing Pathway
	Rail Line Extension		Future Pathway
	Super Collector Roadway		Regional Commercial Site
	Industrial Collector Roadway		Future Road Closure
	Primary Pathway		Existing Canal Alignment

Circulation Network

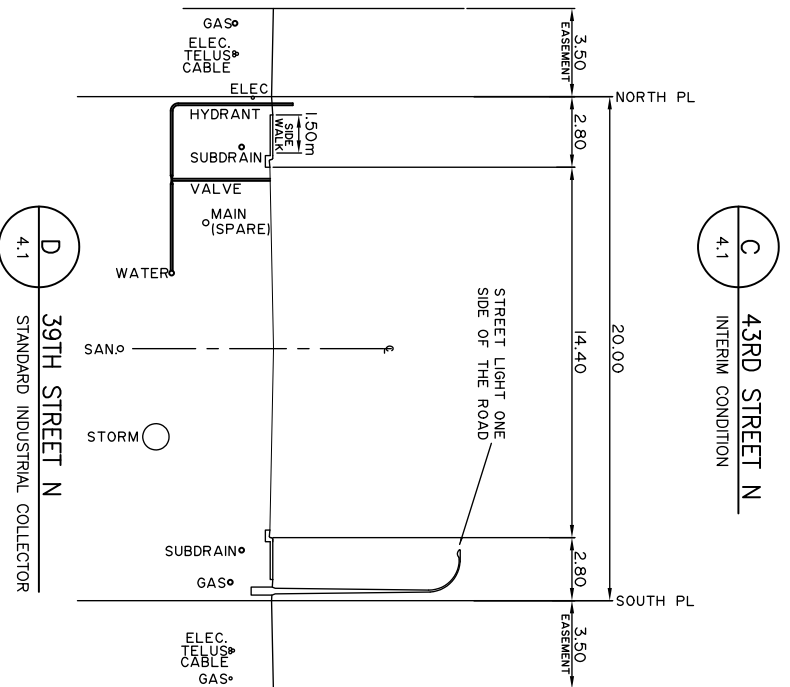
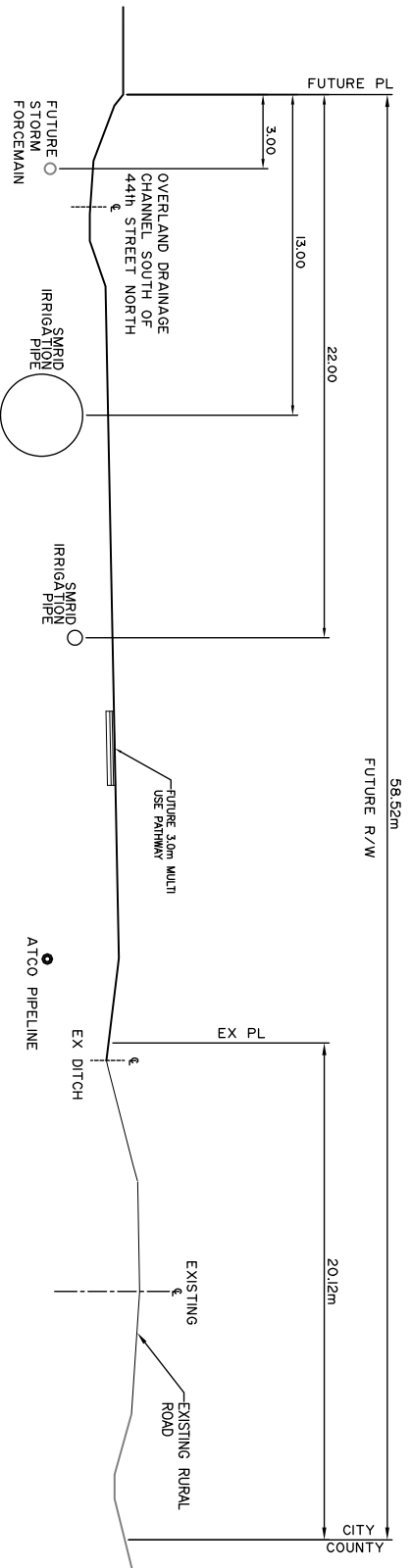


A
4.1
28TH STREET CROSS-SECTION
MODIFIED ARTERIAL



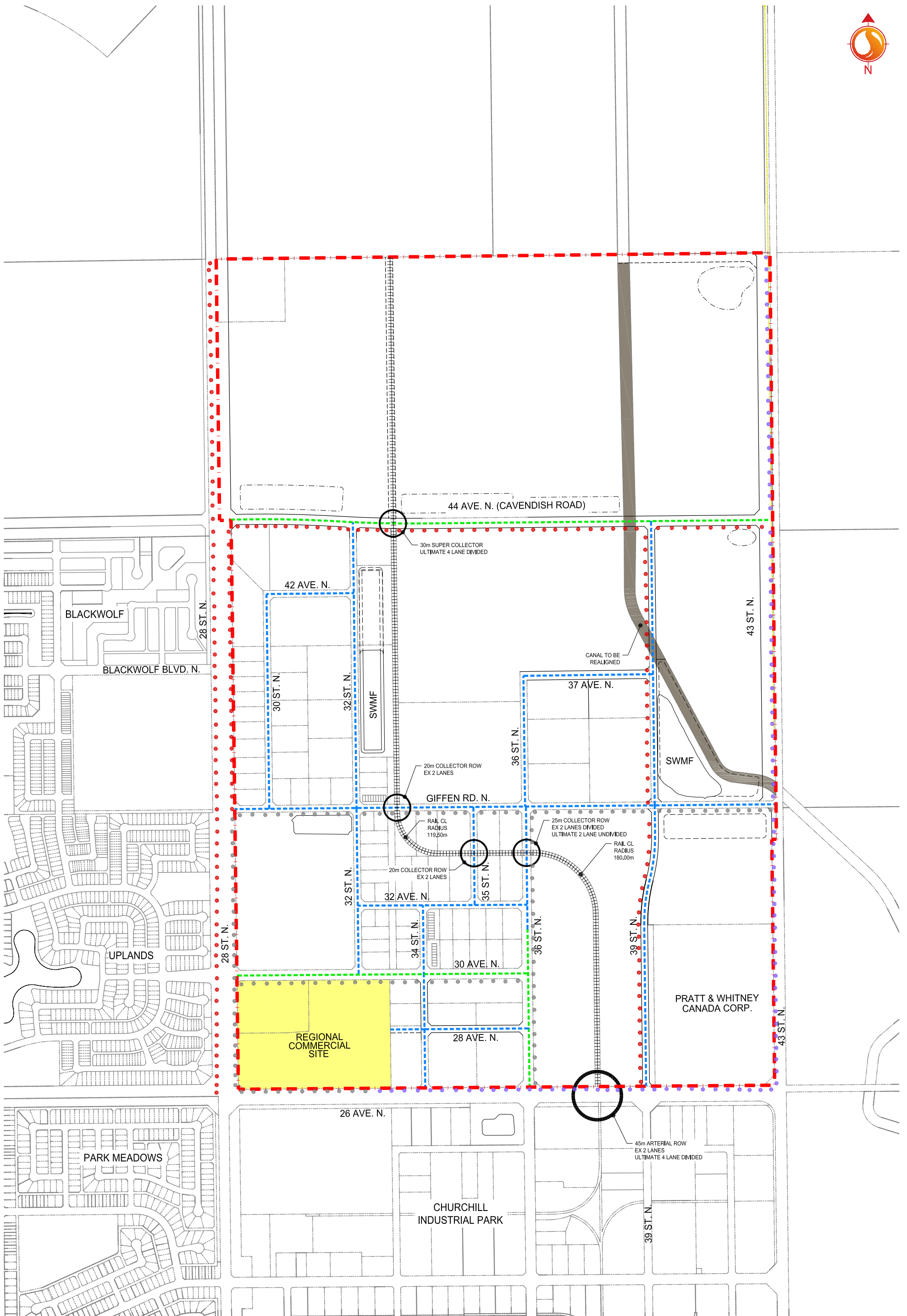
B
4.1
44TH AVENUE CROSS-SECTION
STANDARD SUPER COLLECTOR

Note:
1. All required Infrastructure and dimensions will be confirmed at Detailed Design.



Note:
 1. All required Infrastructure and dimensions will be confirmed at Detailed Design.

Cross Section


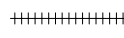








NTS



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May 18, 2017

Legend

-  Outline Plan Boundary
-  Rail Line Extension
-  Super Collector Roadway
-  Industrial Collector Roadway
-  Primary Pathway
-  Existing Pathway
-  Future Pathway
-  Existing Canal

SHERRING BUSINESS & INDUSTRIAL PARK | FIGURE 4.4

Rail Line Extension

PREPARED FOR: CITY OF LETHBRIDGE

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5.0 UTILITY SERVICING

5.1 WATER SUPPLY AND DISTRIBUTION

The water distribution system for the Sherring Outline Plan area will be connected to the existing City of Lethbridge water distribution system from 26 Avenue North and 28 Street North.

The amended water network in the Sherring Business and Industrial Park adheres to the level of service objectives stated in the City of Lethbridge Design Standards 2016, including:

- Under peak hour demand (PHD) conditions pressures in the system shall not be less than 310 kPa.
- Under maximum day demand (MDD) conditions pressures in the system shall not be less than 345 kPa.
- Maximum Pressures in the system are not to exceed 620 kPa.

Considering the land use being mostly either Heavy Industrial or Commercial for Sherring Business and Industrial Park, the demand calculation was derived from sewage generation rates as identified in the City of Lethbridge Design Standards. A key assumption that 90% of water consumed was discharged to the sanitary system was adopted into the demand calculation. **Table 5.1** below shows the water demand needed to serve the Sherring Business and Industrial Park based upon the sanitary system discharge parameters:

Table 5.1 – Design Parameters for Water Demand and Sanitary Discharge

Land Use Type	Total Area Ha	Sanitary Discharge rate (m3/ha/day)	Water Consumption rate (m3/ha/day)	Average Daily Water Demand L/s	Average Day Sanitary Discharge L/s
Heavy Industrial	72.81	60	67	56.5	50.5
General Industrial	187.07	30	34	73.6	65.0
Business Industrial	26.40	20	23	7.0	6.0

These average daily demands were multiplied by a peaking factor of 1.75 to produce Maximum Daily Demand and by 3.0 to simulate Peak Hourly demand.

The system is analyzed for the projected Maximum Daily Water Demand (245.8 l/s) and required fire flows (175 l/s) in the system. The resulting system is composed largely of nominal 300 mm diameter pipe with a 450 mm / 500mm large diameter regional distribution system that will be extended from BlackWolf Blvd. North to an existing water main at 26 Ave. N. This looped industrial system is intended to provide the overall water distribution system for the development.

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

Illustrated in [Figure 5.1 – Water Servicing](#) are details of proposed water distribution pipe sizes and alignments for the Sherring Outline Plan Amendment.

5.2 WATER SUPPLY FOR FIRE PROTECTION

The Sherring Business and Industrial Park has been designed to meet standards and guidelines for a development of this nature. The water distribution system has been sized to meet applicable fire flow requirements. The proposed design for the Sherring Outline Plan Amendment will provide a minimum flow of 175 l/s (2750 gpm) (available at the main) for fire protection purposes.

5.3 SANITARY SEWER COLLECTION SYSTEM

A single lift station adjacent to Stormwater Pond C will service the Sanitary Sewer Collection System for the entire Sherring Outline Plan area. The lift station will pump sewage west through a 2,100 m long force main to the Uplands Boulevard gravity trunk sewer. The lift station is sized for an ultimate sewage flow of 210 l/s. The proposed sewer system will be sized at detailed design to service the land use arrangement proposed in this outline plan. Detailed design shall consider existing sewers and utilizing them to their capacity; thereby minimizing oversizing infrastructure in other areas.

The average day sanitary flows generated from the Sherring Business and Industrial development are estimated to be around 125 L/s based on sewage generation rates as identified in [Table 5.1](#) above. The total estimated peak sewage generated from the development at the ultimate condition is estimated to be 187 L/s, using a peaking factor of 1.5 over the average daily flow. The sanitary sewer servicing strategy would include the addition of gravity sanitary sewer main extending from the sanitary lift station to 44 Ave. Also, the gravity sanitary sewer will be extended along the 44 Ave. N. alignment to service lots north of 44 Ave. N. Further details regarding the sanitary sewer and collection system are illustrated in [Figure 5.2: Sanitary Sewer Servicing](#).

5.4 STORM WATER MANAGEMENT SYSTEM

The storm water management system will consist of minor and major systems. The minor system, which consists of storm sewers, manholes and catchments, will be designed to accommodate the runoff resulting from one in five (1:5) year return period storm event. The major system includes streets, pathways, ditches/swales, and other overland flow paths and is designed to convey runoff resulting from a storm event up to the one in one-hundred year (1:100) return period. Catchment boundaries for drainage into Sherring shall include the adjacent half of the bounding arterial road right-of-way.

Storm Water Conveyance throughout the Sherring Plan has historically been developed around urban cross sections for business industrial (curb, gutter and catch-basin), and rural cross-sections for general/heavy industrial (ditches) or a hybrid.

For the Sherring Business and Industrial Park, the minor systems flows were analyzed at a unit rate of 90L/s/ha and the major system flows were analyzed at a unit rate of 200 l/s/ha. All information presented is for planning purposes and shall be amended or confirmed through detailed design.

**SHERRING BUSINESS AND INDUSTRIAL PARK
OUTLINE PLAN**

All the minor and major flows from the Sherring Business and Industrial Park will be directed to the detention storage ponds facilities, which will provide the necessary controls for discharges to downstream locations via a Pump Station. It has been assumed that each individual parcel will be required to have onsite storage based on 1000m³/Ha which will further be reviewed at detail design of each parcel. **Table 5.2** identifies the minor and major flows for the seven catchments as identified below in the report and the attached drawings for the Sherring Business and Industrial Park development.

Table 5.2 – Minor and Major flows from Catchments

Catchment		Sub Catchment		Minor System Flow (m ³ /s)	Major System Flow (m ³ /s)
ID	Area (Ha) Includes Pond	ID	Area (Ha) Excludes Ponds		
A	47.4	A1	32.8	2.95	6.56
		A2	12.2	1.10	2.44
B	99.1	B1	19.7	1.77	3.94
		B3 (Existing)	79.4	Existing	Existing
C	82.7	C1	24.4	2.20	4.88
		C2	7.7	0.69	1.54
		C3	11.7	1.05	2.34
		C4	21.2	1.91	4.24
		C5	17.7	1.59	3.54
D	4.2	D	3.64	0.34	0.73
E	44.1	E	42.05	3.78	8.41
F	48.9	F1	24.8	2.23	4.96
		F2	21.7	1.95	4.34
G	26.9	G1	25.1	2.26	5.02

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

The stormwater management system for the Sherring industrial lands will consist of seven major catchment areas, each draining to a dedicated detention facility (Ponds A, B, C, D, E, F and G). The existing stormwater management facilities (Pond B and Pond C) in the Sherring development area are drained by lift stations and pumped to the Uplands Blvd Storm Trunk via 300mm dia and 450mm dia forcemains. The existing combined release rate from the Sherring development area (Existing Pond B and Pond C) is 324 L/s and has been assumed to remain the same for the proposed Outline Plan amendment. This equates to a unit area release rate for the entire Sherring development area of 1L/s/ha. Pond G will drain to existing pond B, and the remaining new ponds (Ponds A, D, E and F) will drain to existing pond C. The new ponds will be restricted to the same unit area release rate of 1L/s/ha.

CATCHMENT A

Overview

Catchment A is an adjusted drainage area from the original Sherring Outline Plan that has been separated from Catchment C. Catchment A will likely be maintained through an open swale conveyance / pipe system combination.

Drainage Assessments

Catchment A services a contributing area of approximately 47.4ha, in the southeast portion of Sherring Business and Industrial Park development, south of Giffen Road N. A dedicated storm pond will be constructed in the northeast corner of the catchment adjacent to Giffen Road N.

Catchment A is primarily undeveloped land with no existing underground stormwater infrastructure. This allows some flexibility in the servicing strategy for Catchment A. The existing grades in the catchment are such that an overland conveyance system (i.e. ditch and culvert) could provide necessary conveyance capacity to the storm pond while minimizing infrastructure costs. A pipe system can also be considered at detailed design.

The new storm pond will drain by gravity to the existing Pond C, and will be restricted to a unit area release rate of 1 L/s/ha.

CATCHMENT B

Overview

Catchment B is an expanded drainage area from the original Sherring Outline Plan and will be developed to an urban storm water conveyance system. Pond Expansion in this zone is required to adequately service the new drainage boundary and protect the existing City of Lethbridge Electrical substation. To manage the proper conveyance of 1:100 year flows, it is recommended that the existing pond be expanded to the south property line of the Electrical substation as shown which will limit overland conveyance through internal road ways. Catchment B is also linked to Catchment C through an emergency overland flow route that must be maintained and serviced by open ditch systems.

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

Drainage Assessments

Catchment B services a contributing area of 99.1ha, mainly in the west portion of Sherring Business and Industrial Park development south of 44th Avenue. Stormwater runoff from the Sports and Recreation Facility will be managed on-site and used for irrigation purposes and is not considered to be contributing to the storm pond for Catchment B.

The existing storm pond, located adjacent to 32nd Street North, approximately 160m north of Giffen Road North, must be expanded to provide adequate storage. The existing storm pond will be expanded to the north by approximately 250m. New Pond G will drain by gravity to the expanded Pond B. The discharge rate from Pond B is 124 L/s.

The drainage system for Catchment B is a typical dual drainage system consisting of overland conveyance routes, catch basins and pipes. New storm pipes will be constructed and tied to the existing system to provide storm service to the new developments. There is an emergency overflow from the storm pond in Catchment B to the overland conveyance routes and ultimately the storm pond in Catchment C.

The draw down time for active storage volume of the Pond B is 11 days based on current pump release rate.

CATCHMENT C

Overview

Catchment C is an expanded drainage area from the original Sherring Outline Plan. Key components to the expanded management system includes:

1. The maintenance of emergency overland drainage from Pond B and adjacent site drainage west of 36th street through an existing drainage ditch.
2. Due to existing and proposed elevations at the Intersection of 44th Avenue and 43rd Street, the pond system should be expanded to lower the High Water Level (HWL) elevation of this facility.

Drainage Assessments

Catchment C services a contributing area of approximately 82.7ha in the east portion of the Sherring Business and Industrial Park development.

Catchment C is primarily undeveloped land with no existing underground stormwater infrastructure. This allows some flexibility in the servicing strategy for Catchment C. The existing grades in the southern portion of the catchment are such that an overland conveyance system (i.e. ditch and culvert) could provide necessary conveyance capacity to the storm pond while minimizing infrastructure costs. A dual drainage system will service the north portion of the catchment.

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

The existing storm pond in Catchment C, located north of Giffen Road North and 160m west of 43rd Street North, must be expanded to provide adequate storage. The existing storm pond will be expanded to the north and east into the SMRID Canal ROW to provide the required storage. The maximum discharge rate from Catchment C is 200 L/s to the Uplands Storm trunk via 450mm force main. The draw down time for active storage volume of the Pond C is 10.5 days based on current pump release rate.

CATCHMENT D

Overview

Catchment D is small drainage area that includes a small portion of the 44th Avenue N ROW and 43rd Street N ROW, from Giffen Road to approximately 125m north of 44th Avenue N. A small pond will be constructed in the northeast corner of Catchment C to manage the runoff from Catchment D.

Drainage Assessments

Catchment D services a contributing area of approximately 4.2ha of land along the eastern limit of the Sherring development area. The pond for Catchment D will drain to the expanded Pond C unrestricted.

Catchment D is made up of only transportation ROWs and will be serviced by major and minor systems.

CATCHMENT E

Overview

This northerly zone has been reviewed for ultimate conditions; however, much of the land will be largely undeveloped for many years. Initial grading and drainage designs should tie to existing ground conditions at the north plan boundary which will provide opportunity for the development of a unified urban drainage plan with the neighbouring parcel. The NE pond location, while providing a management facility for near term-development, will likely be incorporated into a more regional storm water management facility in the future.

Drainage Assessments

Catchment E services a contributing area of approximately 44.1ha in the northeast portion of the Sherring Business and Industrial development. Catchment E is undeveloped land with no existing underground stormwater infrastructure and will require the construction of a new storm detention pond. There is an existing low area in the north east corner of the catchment which will be the location of the new storm pond. There is no connection to the existing City of Lethbridge storm system from the storm pond in Catchment E, therefore it will be pumped by a new lift station and forcemain to a storm system in 44th Avenue at a rate of 1L/s/ha. The impervious area for Catchment E is assumed to be approximately 30%.

SHERRING BUSINESS AND INDUSTRIAL PARK OUTLINE PLAN

The future pond will be constructed with an impermeable liner and significant emergency storage. Therefore, any urban run-off from Sherring will not be allowed to migrate downstream to neighboring low lying areas. Pond construction volumes shall be finalized during detailed design and must accommodate existing drainage from north of the plan area.

CATCHMENT F

Overview

This northerly zone has been reviewed for ultimate conditions; however, much of the land will be largely undeveloped for many years. The pond location along the south boundary of the parcel will allow preliminary grading to be completed as part of development of the lands south of 44th Avenue N which are likely to be developed prior to the lands to the north.

Drainage Assessments

Catchment F services a contributing area of approximately 48.9ha in the northern portion of Sherring Business and Industrial development. Catchment F is undeveloped land with no existing underground stormwater infrastructure and will require the construction of a new storm detention pond. This pond will drain by gravity to the proposed storm trunk along 44th Avenue N which ultimately discharges into Pond C. Ponds will be restricted to a release rate of 1 L/s/ha.

CATCHMENT G

Overview

This northerly zone has been reviewed for ultimate conditions; however, much of the land will be largely undeveloped for many years. The pond location along the south boundary of the parcel will allow preliminary grading to be completed as part of development of the lands south of 44th Avenue N which are likely to be developed prior to the lands to the north.

Drainage Assessments

Catchment G services a contributing area of approximately 26.9ha in the northwest portion of Sherring Business and Industrial development. Catchment G is undeveloped land with no existing underground stormwater infrastructure and will require the construction of a new storm detention pond. This pond will drain by gravity to the proposed storm trunk along 44th Avenue N which ultimately discharges into Pond B. Ponds will be restricted to a release rate of 1 L/s/ha.

Table 5.3 provides catchment area statistics and estimates for storage requirements for the storm ponds in the Sherring development area.

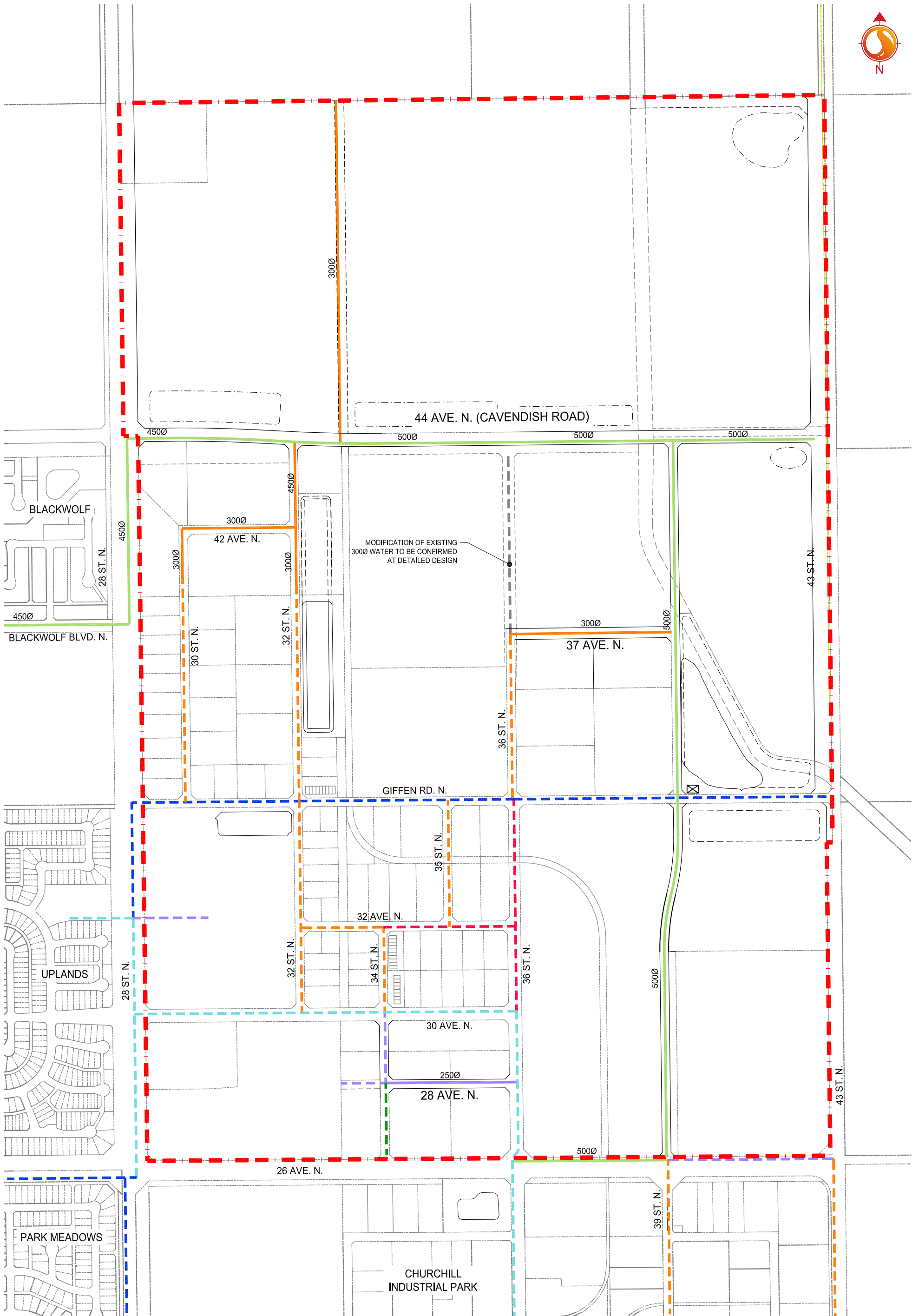
**SHERRING BUSINESS AND INDUSTRIAL PARK
OUTLINE PLAN**














Table 5.3 - Stormwater Catchment Statistics

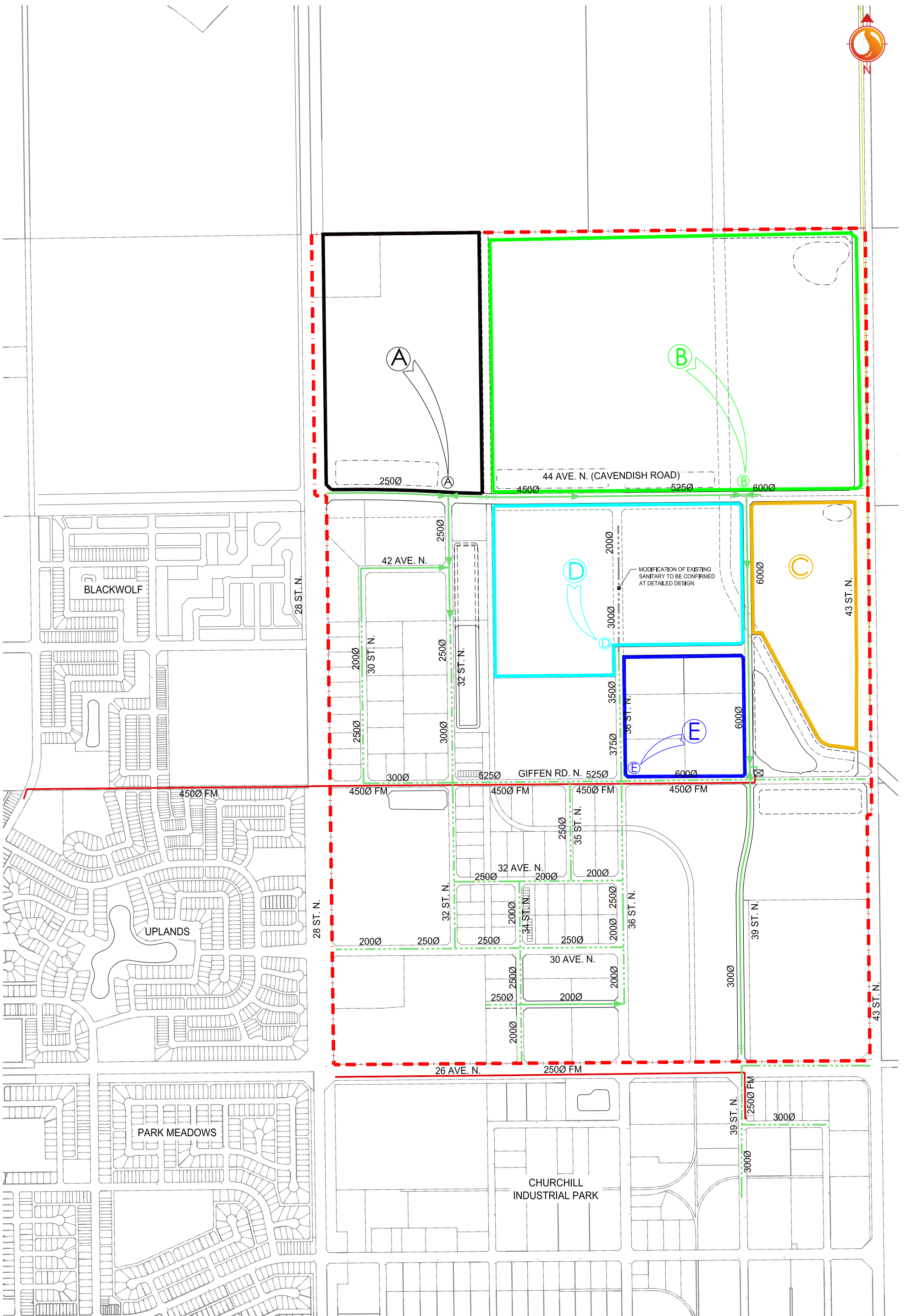
<i>Catchment</i>	<i>Total Area (ha)</i>	<i>% Impervious</i>	<i>Active Storage Volume (m³)</i>	<i>Emergency Storage Volume (m³)</i>
A	47.4	85	47,400	12,000
B	99.1	78	99,100	18,300
C	82.7	85	82,700	25,500
D	4.2	70	4,200 ¹	1,700
E	44.1	30	44,100 ¹	12,000
F	48.9	85	48,900 ¹	15,600
G	26.9	85	26,900 ²	10,800

1. Denotes ponds that drain to Pond C
2. Denotes ponds that drain to Pond B

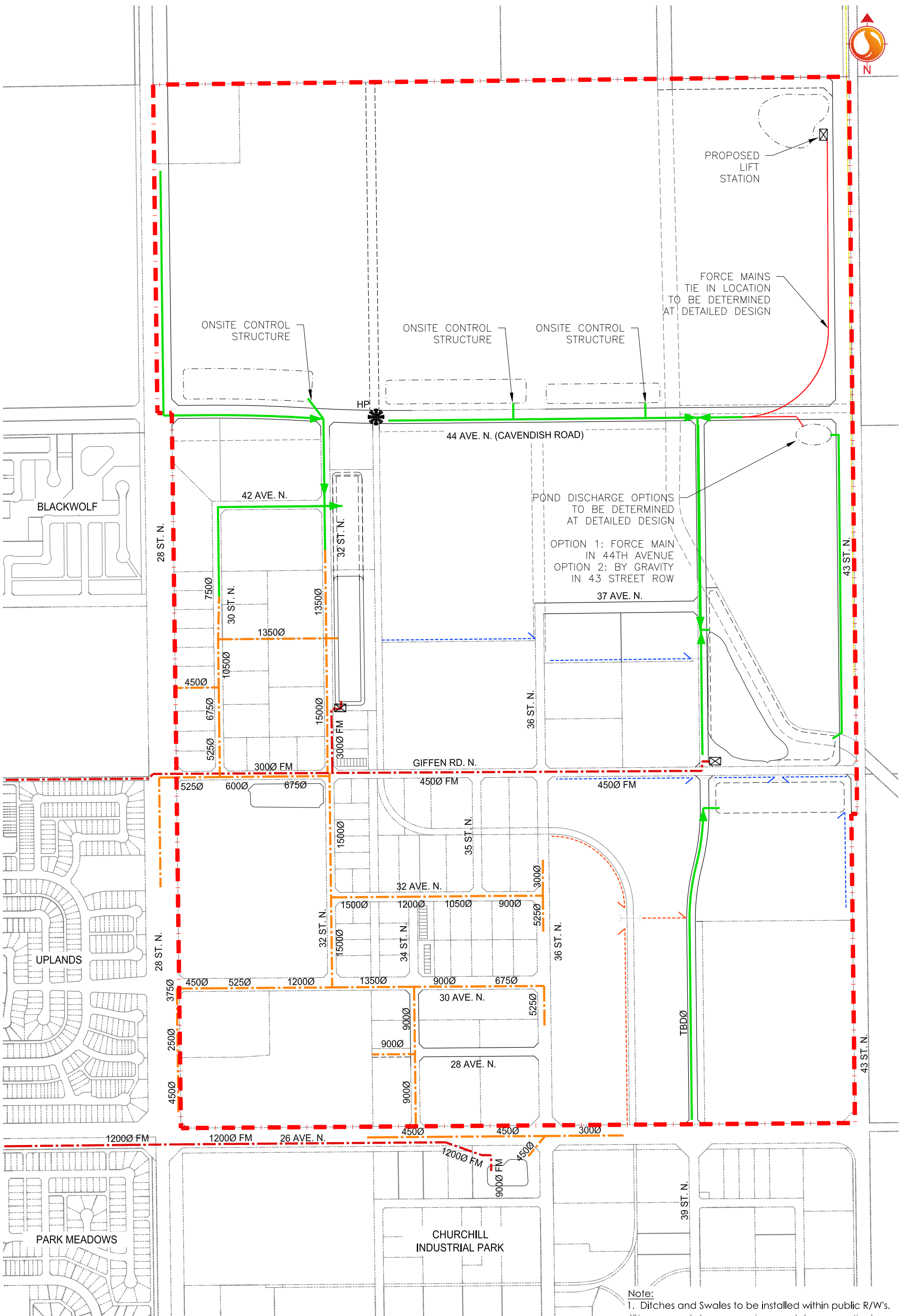
Further detail of the stormwater management system is shown on **Figure 5.3: Storm Conveyance Systems** and **Figure 5.4: Major Storm System – Catchments and Pond Statistics**.



Legend	
	Outline Plan Boundary
	Existing 200ø
	Proposed 250ø
	Existing 250ø
	Proposed 300ø
	Existing 300ø
	Existing 300ø To Be Removed
	Proposed 350ø
	Existing 350ø
	Existing 400ø
	Proposed 450ø
	Existing 500ø
	Existing Lift Station



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- Catchment A1
- Catchment A2
- Catchment B
- Catchment C1
- Catchment C2
- Catchment C3
- Catchment C4
- Catchment C5
- Catchment D
- Catchment E
- Catchment F1
- Catchment F2
- Catchment G

SWMF A
 BTM - 907.00
 HWL - 909.00
 FREEBOARD - 909.50
 VOLUME - 47,400m³
 FREEBOARD VOLUME = 12,000m³

SWMF B - EXISTING
 PWL - 907.50
 HWL - 910.65
 FREEBOARD - 911.15
 ACTIVE STORAGE - 55,400m³
 FREEBOARD VOLUME = 9,500m³

SWMF B1
 PWL - 907.50
 HWL - 910.65
 FREEBOARD - 911.15
 ACTIVE STORAGE - 44,400m³
 FREEBOARD VOLUME = 8,800m³

SWMF C - EXPANDED
 PWL - 903.75
 HWL - 905.70
 FREEBOARD - 906.90
 ACTIVE STORAGE - 82,700m³
 FREEBOARD VOLUME = 25,500m³

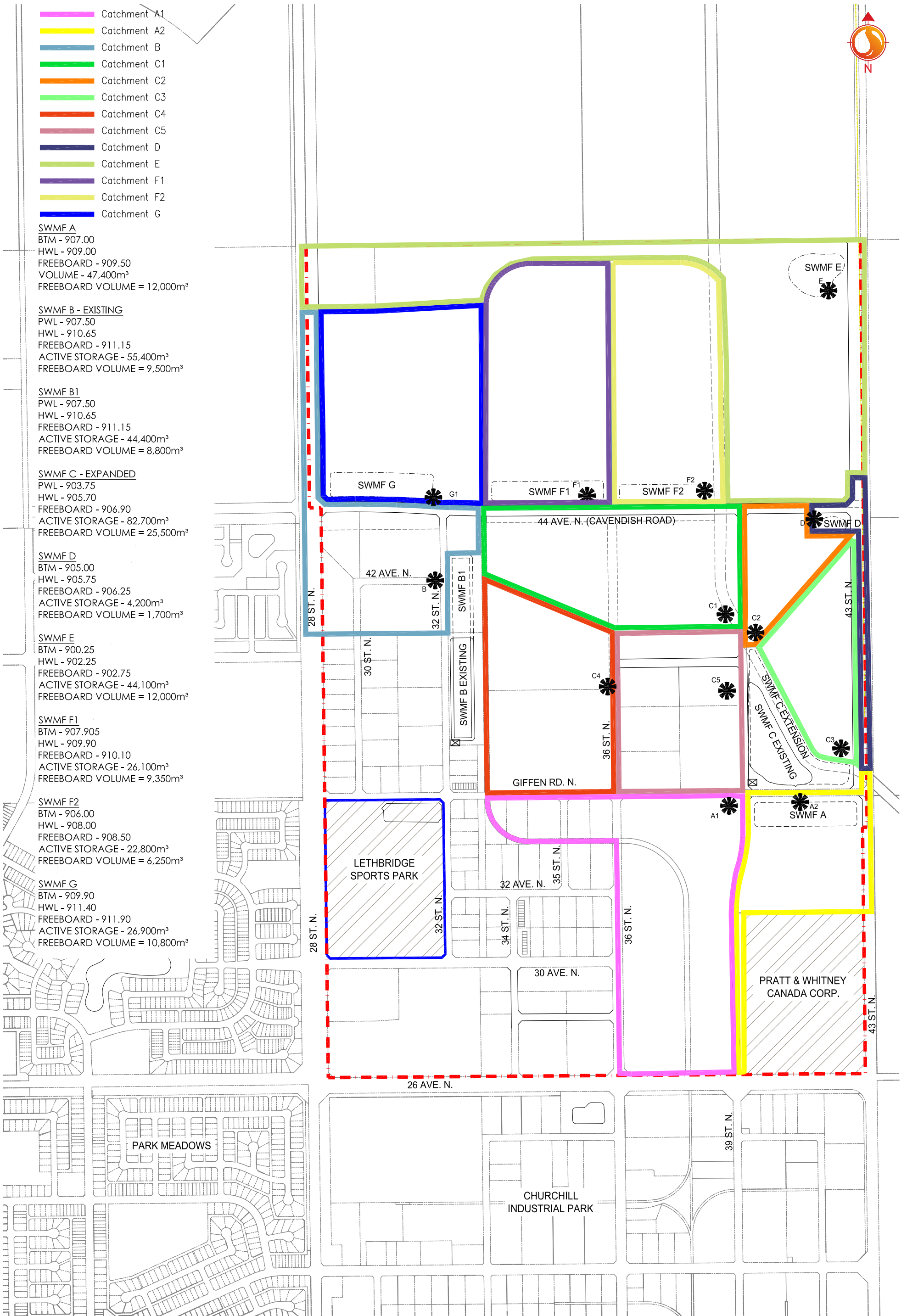
SWMF D
 BTM - 905.00
 HWL - 905.75
 FREEBOARD - 906.25
 ACTIVE STORAGE - 4,200m³
 FREEBOARD VOLUME = 1,700m³

SWMF E
 BTM - 900.25
 HWL - 902.25
 FREEBOARD - 902.75
 ACTIVE STORAGE - 44,100m³
 FREEBOARD VOLUME = 12,000m³

SWMF F1
 BTM - 907.905
 HWL - 909.90
 FREEBOARD - 910.10
 ACTIVE STORAGE - 26,100m³
 FREEBOARD VOLUME = 9,350m³

SWMF F2
 BTM - 906.00
 HWL - 908.00
 FREEBOARD - 908.50
 ACTIVE STORAGE - 22,800m³
 FREEBOARD VOLUME = 6,250m³

SWMF G
 BTM - 909.90
 HWL - 911.40
 FREEBOARD - 911.90
 ACTIVE STORAGE - 26,900m³
 FREEBOARD VOLUME = 10,800m³



6.0 DEVELOPMENT IMPLEMENTATION

The objective of the implementation program is to ensure that the development of this Outline Plan Amendment Area proceeds in a coordinated and cost-effective manner, and that this Outline Plan remains current through active monitoring and review. This will help to ensure that future growth and land use decisions will reflect the needs and aspirations of the local business and industrial community.

6.1 REZONING AND SUBDIVISION

The next step in the planning process will be to apply for appropriate re-districting, consistent with the general land use descriptions provided within the Sherring Outline Plan and the Sherring ASP, and as per the process outlined in the City of Lethbridge Land Use Bylaw (Bylaw No. 5700). Rezoning and subdivision applications will be advanced for specific stages in response to market demand. Applications may be made concurrently or separately, depending upon timing and need. Future land use descriptions are shown in *Figure 3.1 – Land Use Concept*.

6.2 AMENDING THE PLAN

The Sherring Outline Plan is intended to provide a detailed description and illustration of development issues such as land use, circulation, and open space development. However, the plan may be updated to reflect future market conditions. Accordingly, it is important to create a flexible plan that gives a level of certainty to landowners and the community, yet also allows for appropriate change as necessary. As Outline Plans are not a statutory plan under the Municipal Government Act, determining the regulations and requirements for adopting and amending an Outline Plan are the responsibility of the municipality. The City of Lethbridge Municipal Planning Commission currently approves Outline Plan Amendments.