

**IRON HORSE SUBDIVISION
COLD LAKE, ALBERTA**

AREA STRUCTURE PLAN

IRON HORSE DEVELOPMENTS INC.

July 4, 2005

Table of Contents

1.0	INTRODUCTION	1
2.0	LOCATION	1
3.0	BACKGROUND	1
4.0	FACTORS INFLUENCING DEVELOPMENT	1
4.1	Municipal Development Plan.....	1
4.2	Land Use Bylaw	1
4.3	Land Ownership	3
4.4	Resource Extraction.....	3
4.5	Existing Land Use	3
4.6	Adjacent Land Use.....	3
4.7	Natural Features	3
4.8	Phase 1 Environmental Assessment.	8
4.9	Historical/Cultural Resources.....	8
5.0	AMENDED DEVELOPMENT CONCEPT	9
5.1	Land Use	11
5.1.1	Storm Water Management.....	11
5.1.2	Residential	11
5.1.3	Public Open Space	11
5.1.4	Transportation and Access	12
5.2	Municipal Services	13
5.2.1	Storm Drainage.....	13
5.2.2	Sanitary Sewer.....	13
5.2.3	Water Distribution	14
5.2.4	Shallow Utilities.....	14
5.3	Community Services	18
5.3.1	Emergency Services.....	18
5.3.2	Schools	18
6.0	Development Sequence	19

1.0 INTRODUCTION

This area structure plan amendment has been prepared to support the residential development of the remainder of Parcel B Plan 4930 NY in the City of Cold Lake.

This plan has been prepared for the owner, Iron Horse Developments Inc., which is the owner of the entire property referred to in this ASP amendment. This ASP Amendment incorporates the changes required to better reflect the development priorities of the owner. The owner plans to develop the property into predominantly detached single family residences with some medium and high density housing.

2.0 LOCATION

The subject lands are located west of 50th street and south of the CNR right of way in the north half of Section 34-62-2-4. The plan area includes approximately 30.77 Ha. The location of the proposed amendment area is displayed on Figure 1.

3.0 BACKGROUND

In 2002, the Golden Eagle Estates Area Structure plan was approved for this area by the City of Cold Lake. This plan was developed based on the priorities of the owner of that time. This proposed ASP amendment to the Golden Eagle Estates ASP reflects the current owner's priorities with respect to the development of this property.

4.0 FACTORS INFLUENCING DEVELOPMENT

4.1 Municipal Development Plan

Under the current Cold Lake Municipal Development plan (amended in 2002), the subject lands are designated as residential. As part of this amendment 43 Avenue was designated the alignment for a collector road into the subject property.

4.2 Land Use Bylaw

Under the current land use bylaw (149-LU-03) the subject property is designated UR Urban Reserve.

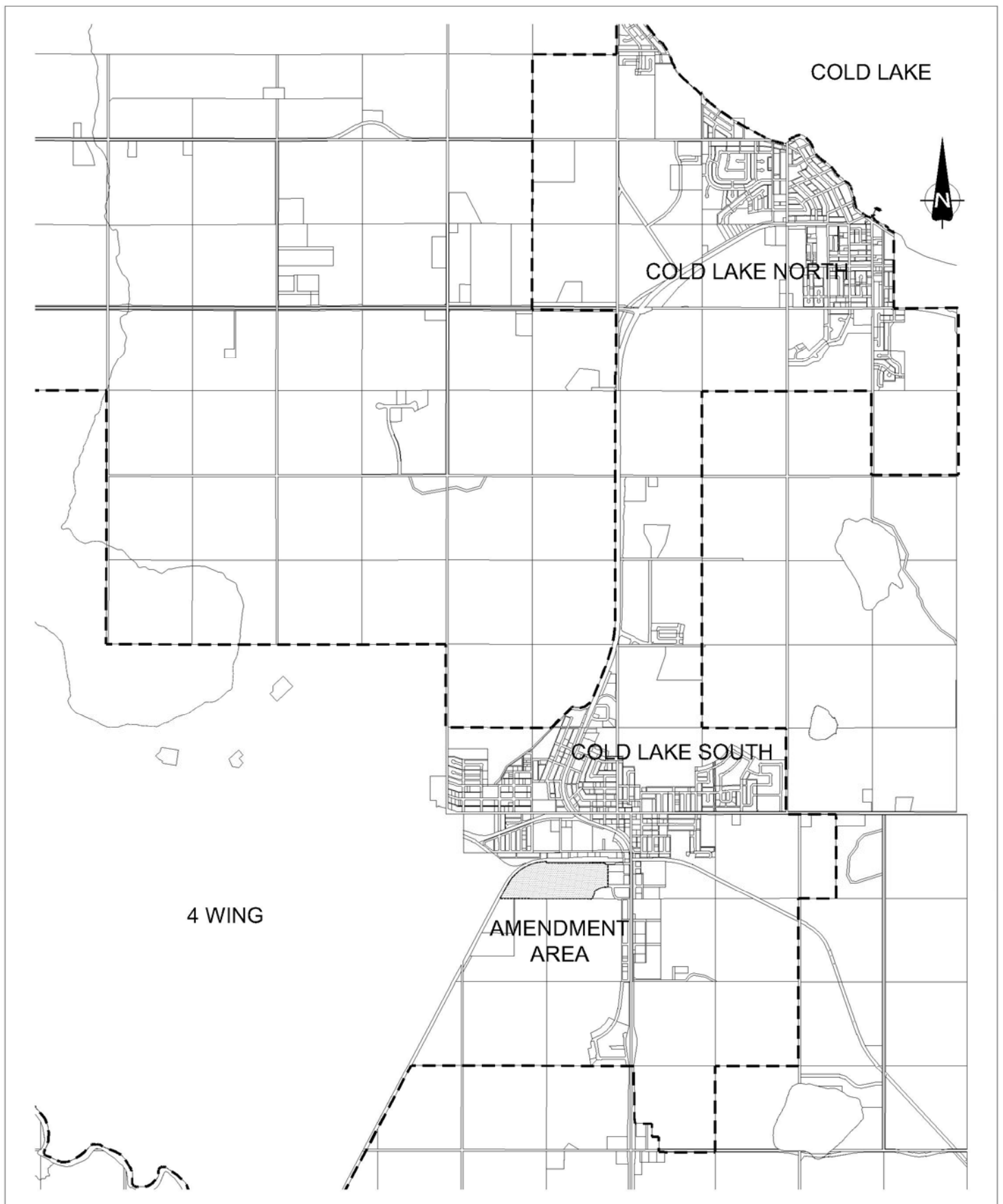


Figure 1 - Location Plan

4.3 Land Ownership

The current owner of the subject property is Iron Horse Developments Inc. This area structure plan amendment has been prepared on the behalf of the beneficial owner. Figure 2 displays the land ownership adjacent to the proposed development.

4.4 Resource Extraction

As previously identified in the 2002 ASP, the Energy Utilities board indicated that there are no sour gas facilities in the vicinity of the proposed development. There are no other resource related constraints in the area to restrict the development. This information has been confirmed in the Phase I Environmental Assessment which has been submitted under separate cover.

4.5 Existing Land Use

The subject property is currently in its natural state. There are no buildings on the site. Adjacent to the southeast corner of the subject property is a storm water management pond and sanitary sewer lift station.

4.6 Adjacent Land Use

The area to the south of the subject property is currently in agricultural use. A draft ASP has been submitted for a future development of this property – the C.A Fischer Lumber Co. property. The adjacent land use is proposed to be single family residential along the common property line.

Land to the north of the property is zoned for industrial use. The industrial land is separated from the development by the open space within the former CNR right of way – the Iron Horse Trail. The Iron Horse Trail is a recreational corridor utilized for hiking and motorized recreational vehicle use.

The area to the west of the former CNR right of way is under the jurisdiction of the National Defence establishment. Along the eastern boundary is existing highway commercial. Southwest of the subject property is the site of the former municipal sewage lagoons. The lagoon site has been reclaimed and the sewer line rights of way have been abandoned.

4.7 Natural Features

Figure 3 shows a recent air photo of the site and Figure 4 shows several photos of the site.

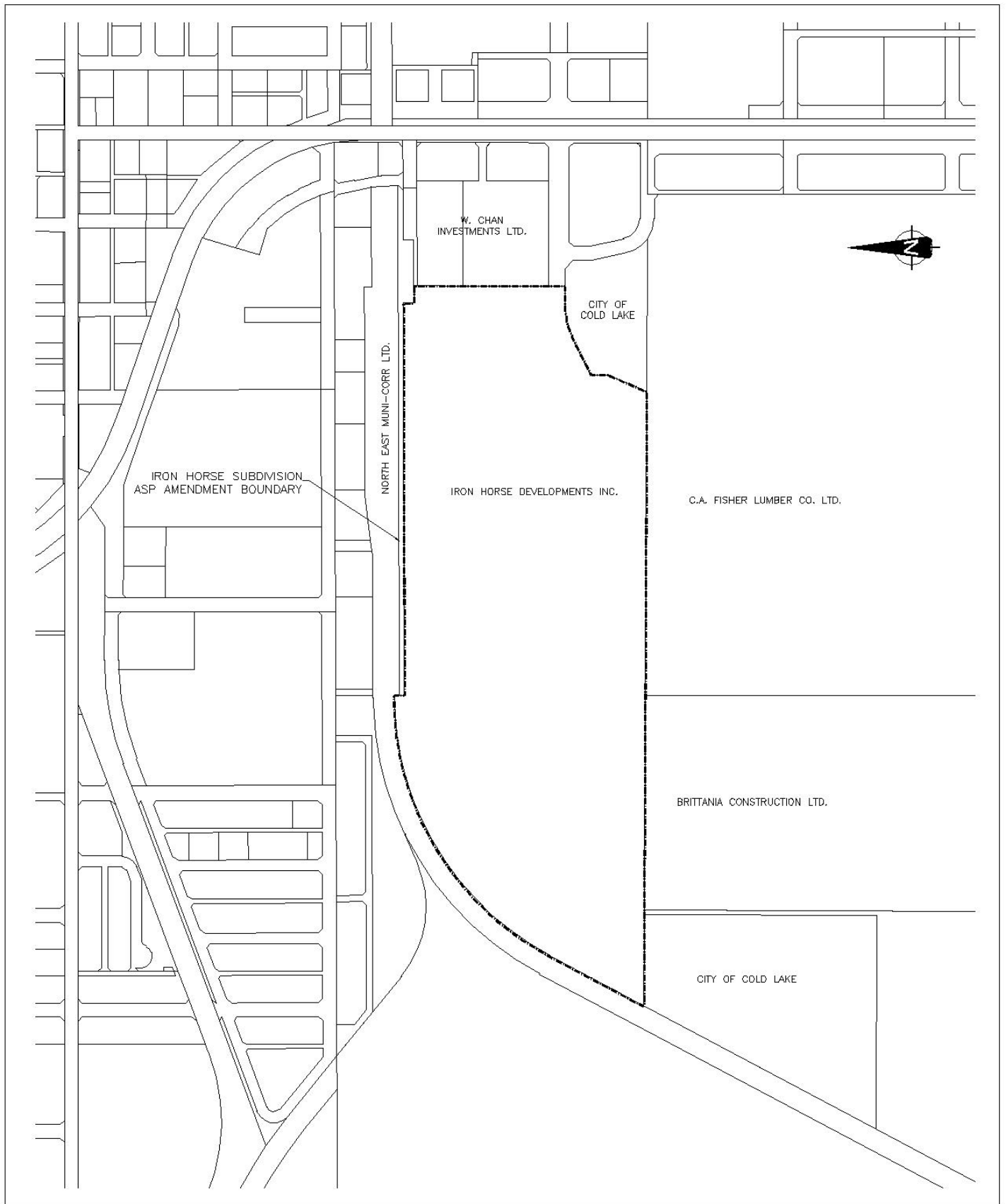


Figure 2 - Land Ownership

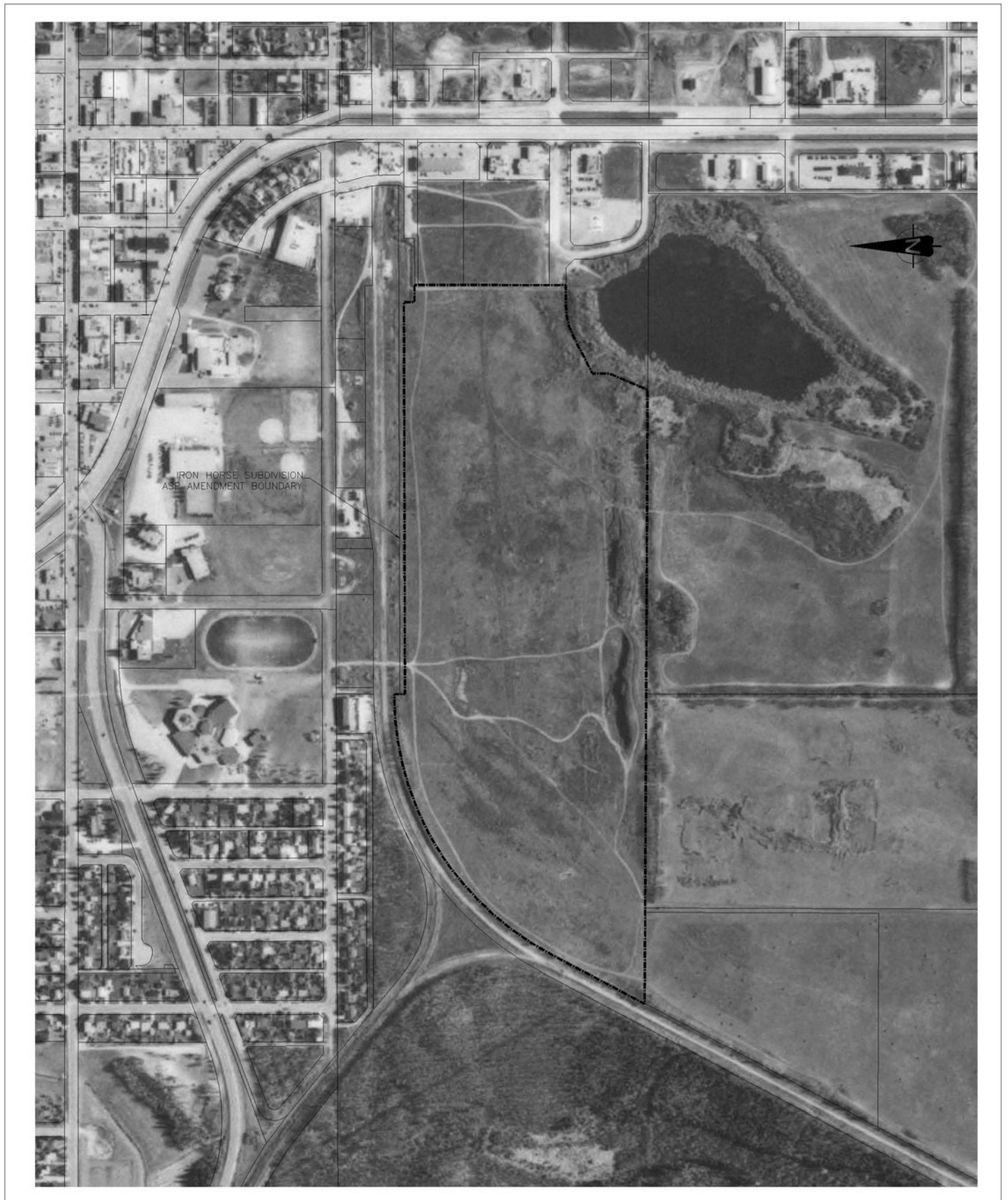


Figure 3 – Natural Features



Figure 4 – Site Photos

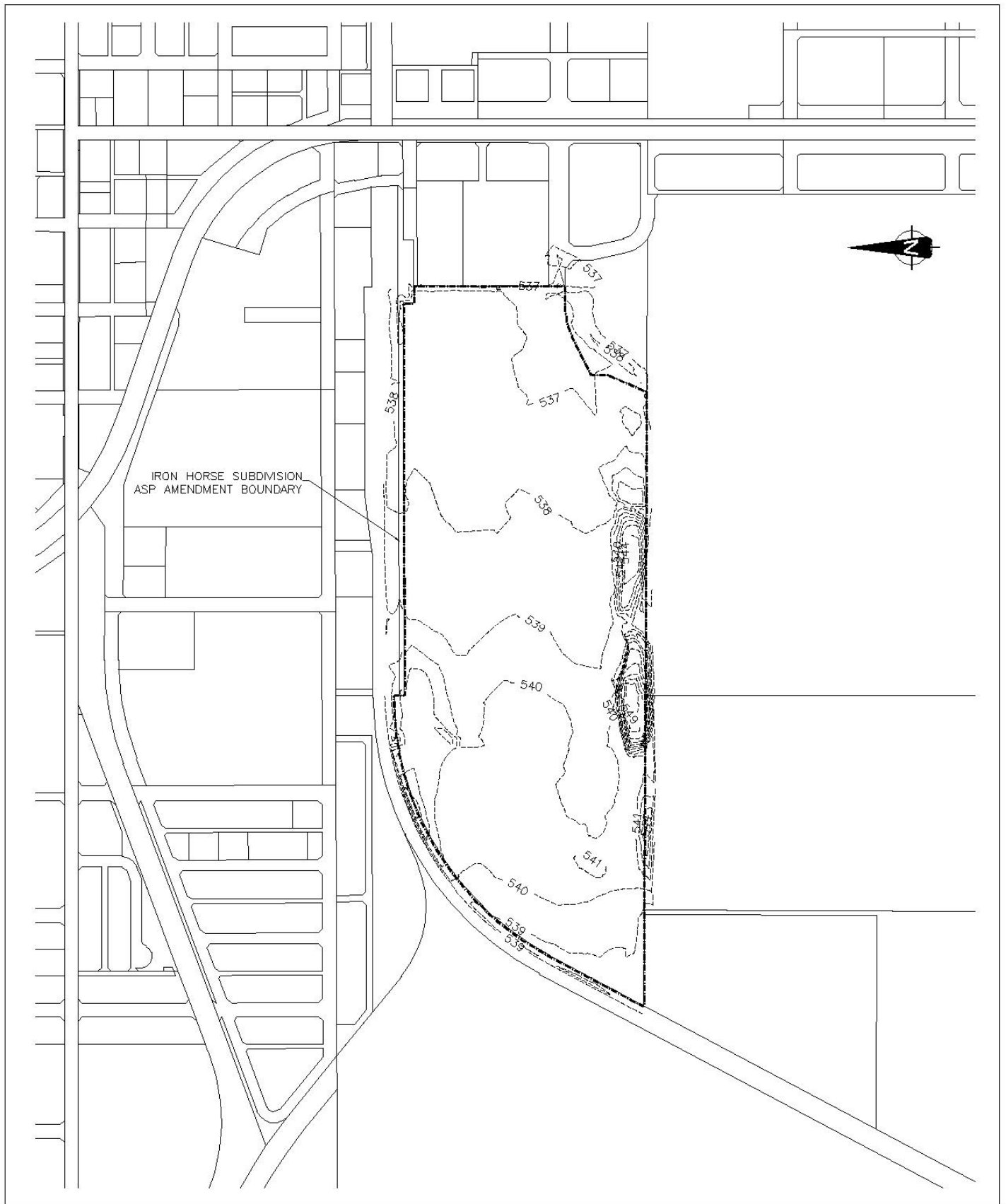


Figure 5 - Existing Topography

4.8 Phase 1 Environmental Assessment.

The Phase I Environmental Assessment has been completed and submitted under separate cover. The Phase I Environmental Assessment noted that adjacent properties have been used for snow dumping and bulk fuel storage. Refer to the Phase I Environmental Assessment for more information.

4.9 Historical/Cultural Resources.

In the previous ASP amendment, Alberta Community Development had indicated that a historical resources impact assessment is not required.

The development is situated adjacent to the Iron Horse Trail which is both a historical and cultural resource to the City of Cold Lake. The Iron Horse Trail network extends from Cold Lake to Smokey Lake and consists of 100's of kilometers of trails that are located within the former CNR right of way. These trails form a recreational corridor utilized for hiking, horseback riding and motorized recreational vehicle use. The land directly north of the development is a staging area used for loading/unloading recreational vehicles within the Iron Horse Trail and serves as a starting point within Cold Lake.

The developer has chosen to incorporate the name of the trail into the subdivision recognizing the amenity provided by the recreational corridor.

5.0 AMENDED DEVELOPMENT CONCEPT

The amended development concept is shown in Figure 6. Table 1 shows a breakdown of the proposed land uses.

**TABLE 1
LAND USE DISTRIBUTION**

	Area (ha)	% of GDA
Net Development Area	30.77	
Roadways	7.36	23.9%
Municipal Reserve	<u>2.24</u>	<u>7.3%</u>
Total Non- Residential	9.60	31.2
Low Density Residential	19.68	64.0%
Medium Density Residential	0.59	1.9%
High Density Residential	<u>0.90</u>	<u>2.9%</u>
Total Residential	21.17	68.8%

**TABLE 2
DEMOGRAPHIC PROFILE**

	Area	Units	%	People/Unit	Population
Low Density Residential	19.68	323	83.7	3.4	1098
Medium Density Residential	0.59	18	4.7	3.0	54
High Density Residential	<u>0.90</u>	45	11.6	2.5	<u>113</u>
Total Residential	21.17	386	100		1265

Density: 41.1 ppgda

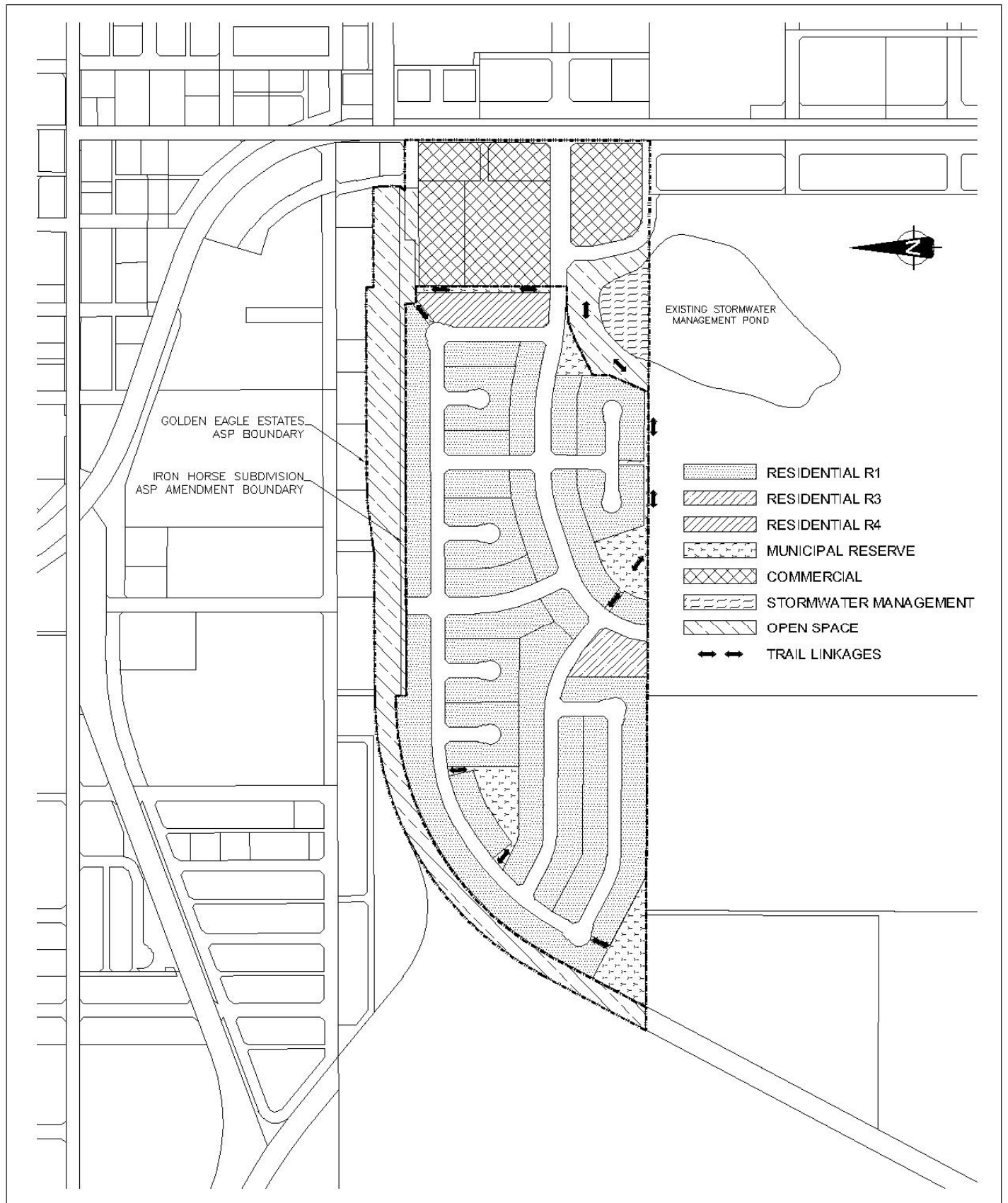


Figure 6 - Development Concept

5.1 Land Use

5.1.1 Storm Water Management

The City of Cold Lake is proceeding with a storm management study to quantify the storm water flows entering the storm retention pond adjacent to the south east corner of the proposed development. Upon completion of this report, the storm water management plan for the development can be finalized.

The proposed storm water management concept incorporates the use of the existing storm water retention pond along with the construction of a new dry detention pond and storm sewer. The plan will utilize the existing storm retention pond adjacent to the south east corner of the proposed development to intercept upstream flows within the existing eastern storm sewer system. Offsite storm water flows will be discharged into the proposed storm sewer at the defined pre-development rate for the upstream catchments. The proposed storm sewer will be designed to convey both flows generated within the development and the offsite flows. The proposed storm sewer will have an inlet into a new dry pond located in the southwest corner of the proposed development. During high volume storm events, the proposed dry pond will be utilized to temporarily retain storm runoff in excess of the predevelopment rate for the subject property. The dry pond will empty into the proposed storm sewer as capacity becomes available. A storm trunk sewer designed to convey the predevelopment rate for the upstream catchments plus the proposed development will cross the former CNR railway right of way and National Defence property within an existing drainage right of way to an outlet at Palm Creek.

The proposed storm trunk sewer will be constructed by others. The construction of this storm trunk sewer will be required prior to development of the property.

5.1.2 Residential

The proposed development concept will consist of primarily single detached residences with 2 sites designated as R3 and R4 multifamily sites. Figure 6 illustrates the intended residential land use locations.

5.1.3 Public Open Space

There are primarily 2 areas designated as Municipal Reserve and are considered park/open space. 2 other locations are intended to be used for trail linkages to existing open space

outside the proposed development. The area provided within the proposed development designates 2.24 Ha as Municipal Reserve. The park areas will be developed in accordance with the City of Cold Lake Municipal Engineering Standards. Currently, one of the dedicated park areas has a large stockpile of black dirt located on it. The developer intends on reducing the size of the pile significantly and re-grading it to provide a suitable park development.

The proposed development is surrounded by existing open space including the Iron Horse Trail and a naturalized storm water management wetland both of which were part of the previous ASP. It is the intention of the developer to improve adjacent open spaces that were part of the previous ASP. This will include re-grading the area around the existing storm water management pond (approximately 1.21 Ha) and developing a naturalized park area with planted trees and a walking trail to adjoin with other trail linkages.

Additionally, the developer intends on re-grading the area between the walking trails within the Iron Horse Trail and the north boundary of the proposed development to create a berm to separate the trail from the residential properties. Trees will be planted sporadically along the berm to deter vehicle traffic from traveling along this area and to aid in noise attenuation.

The proposed development does not meet the Municipal Reserve requirement based on 10% of the titled land. The developer hopes that improving the adjacent open spaces will provide adequate compensation for not meeting the requirement. The developer is prepared to discuss alternate arrangements to increasing the amount of municipal reserve within the proposed development.

5.1.4 Transportation and Access

Collector access to the proposed development will be from 50th Street and the west extension of 43 Avenue. A collector will also extend southward from the intersection of 55th Street and 47 Avenue to intersect with the 43rd Avenue collector. The width of the collector road right of way will be 25 m. The main 43 Avenue collector road will have a termination point on the south edge of the development, which will provide access to future developments to the south.

The City has indicated that the extension of the 55th Street road right of way through the former CNR right of way (the Iron Horse Trail) and commercial lands to 47 Avenue will not pose any issues with the development.

The network of local roads throughout the development will feed into the proposed collector roadways. The width of the local road right of ways will be 20m.

The layout of the roadway system is shown in Figure 6.

5.2 Municipal Services

5.2.1 Storm Drainage

As outlined in 4.1.1 Storm Water Management, the proposed storm drainage system will consist of the existing storm water retention pond, a new storm sewer, and a new dry pond located in the southwest corner of the property. The storm sewer will extend through National Defence lands and outlet at Palm Creek. The final design of the concept will be provided at the development stage and will include findings of the Storm Management study for the Area.

For local flows, overland drainage from individual lots will be conveyed to the proposed storm water collection system. The layout of the proposed storm water collection system is shown in Figure 7. Details of pipe sizing and capacity will be determined at the design stage.

5.2.2 Sanitary Sewer

The proposed sanitary sewer system for the entire development will drain from the west to the east and will pick up additional flows from any future developments to the south. The proposed sanitary sewer collection system will connect to the existing system at the intersection of 43 Avenue and 51 Street.

The previous ASP considered routing part of the proposed development to the existing lift station at the southeast corner of the development. Conditions downstream of the lift station have made this impractical. The City is currently reviewing options for the provision of offsite service for the proposed development. The most likely option will be the construction of a deep sanitary trunk sewer crossing 50th Street at 43 Avenue and connecting to the existing sanitary trunk sewer. We anticipate that the offsite services will be in place prior to construction of the proposed development.

The sizing of the proposed mains will be determined at the design stage. Sizing of the sanitary trunk sewer on 43 Avenue will be carried out in consultation with the City. The layout of the proposed sanitary sewer collection system is shown in Figure 8.

5.2.3 Water Distribution

The proposed water distribution system will consist of a 400mm loop between the connection point at 55 Street and 47 Avenue and the connection point on 43 Avenue and 51 Street. We propose to extend the 400mm water main to the south boundary of the proposed development for future connection. We anticipate that the remainder of the distribution system will consist on 200mm piping except in cul-de-sacs which will utilize 150mm pipe.

Confirmation of water main sizing will be done at the design stage. The layout of the proposed water distribution system is shown in Figure 8.

5.2.4 Shallow Utilities

Natural gas, telephone, cable, and power servicing for the proposed development will be installed within the proposed road rights of way. The proposed shallow utilities will be extended from existing utilities adjacent to the property. The design will be done by others.

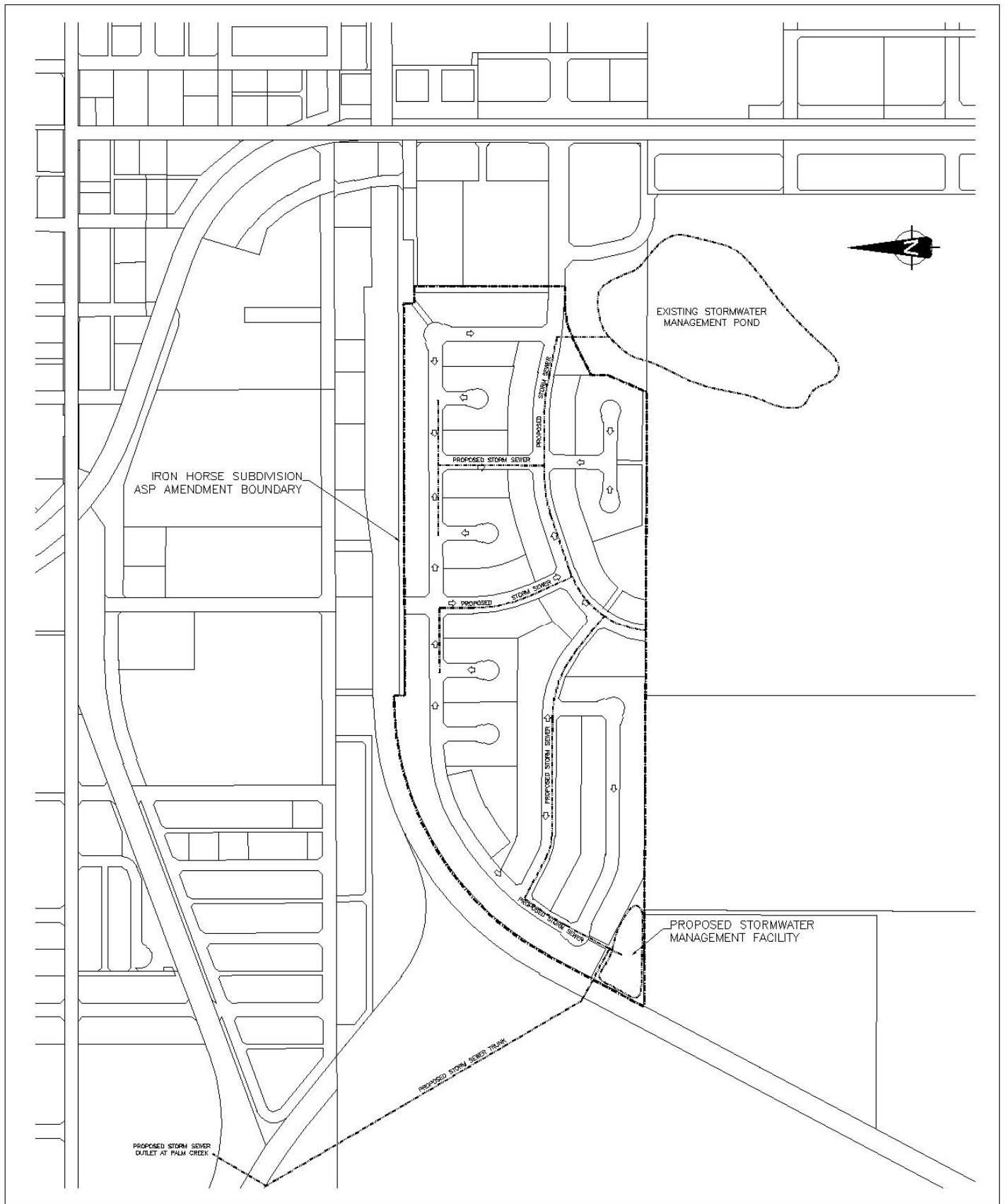


Figure 7 - Storm Drainage

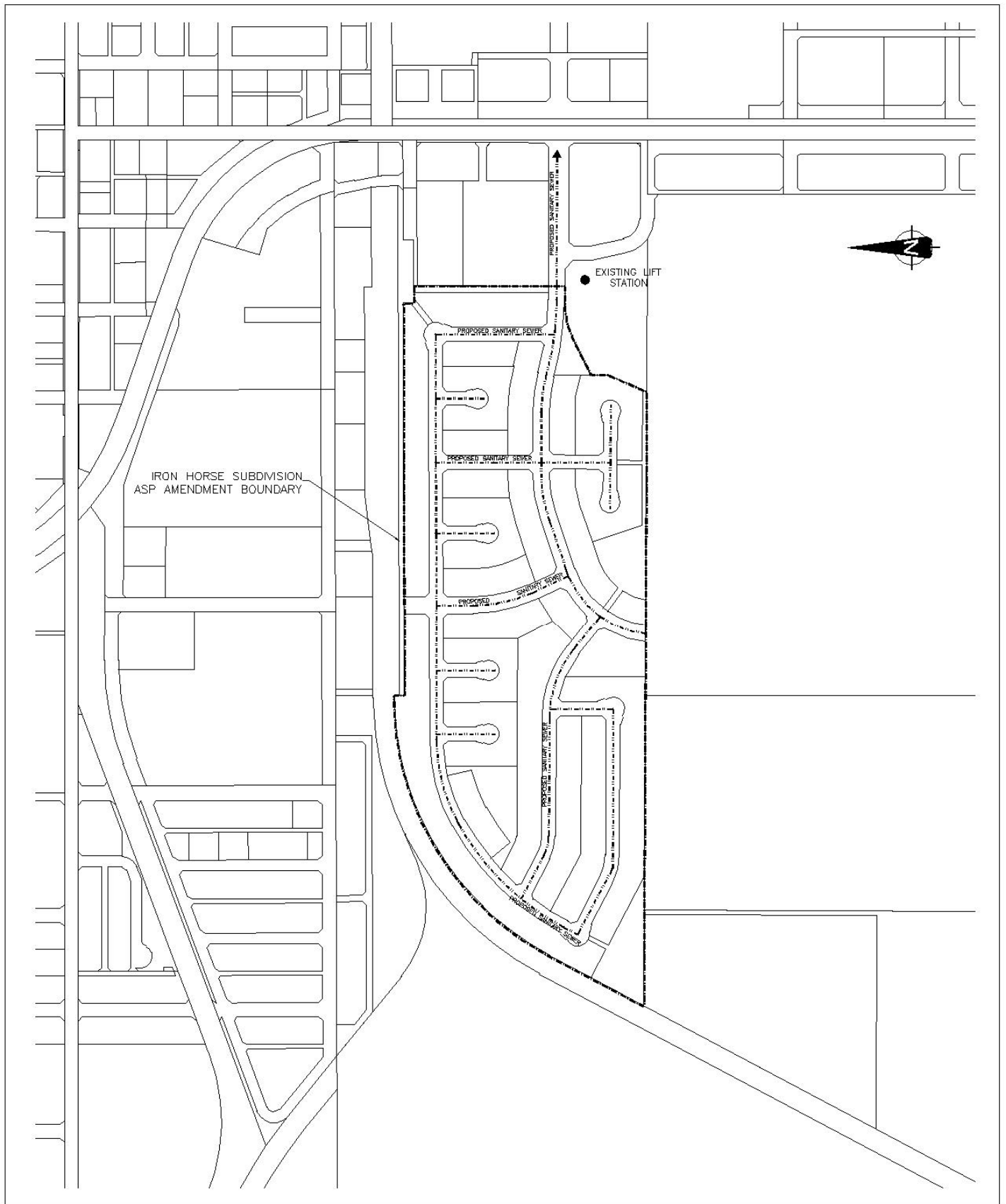
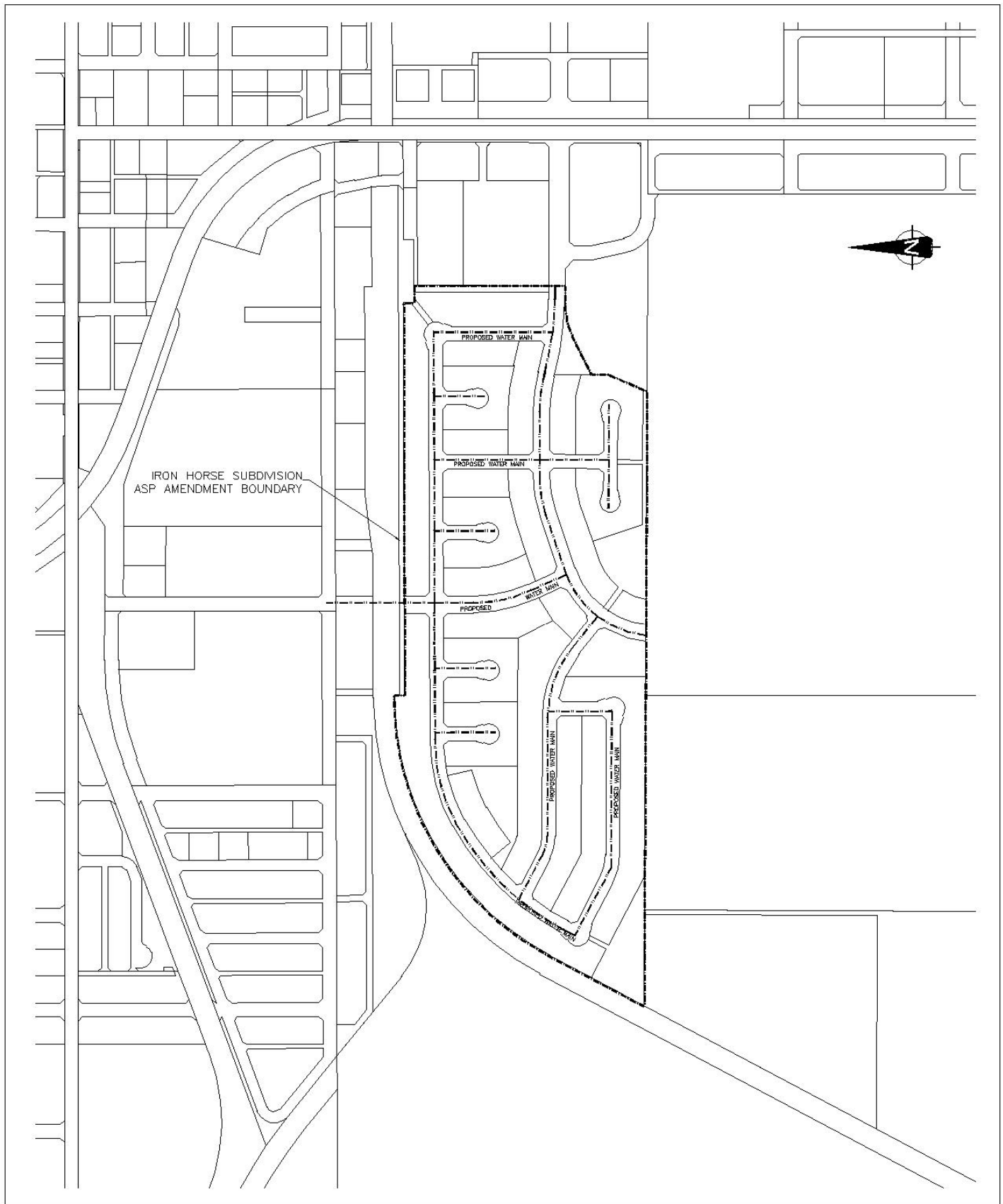


Figure 8 - Sanitary Collection System



5.3 Community Services

5.3.1 Emergency Services

Fire service for the proposed development will be provided by the South Fire Station, located at 5205 - 55 Street

Police and by-law enforcement services are available from 55 Street and 47 Avenue.

Ambulance service will be provided from the Cold Lake Health Centre, 314 - 25 Street

5.3.2 Schools

Based on the information provided by the relevant school authorities, public schools for students of this area are as follows:

Grand Centre Elementary School	5520 - 50 Avenue
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Grand Centre Middle School	5104 - 56 Street
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Grand Centre High School	5533 - 48 Avenue
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Separate schools serving this area are:

Assumption Jr. / High School	5209 – 48 Avenue
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McKenzie Elementary School	On military base
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Francophone schools servicing this area are:

Ecole Voyager	NW1/4 11-63-2-4 in fall 2005
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There has been no municipal reserve dedicated for a school site with in the proposed development. The previous ASP had dedicated a portion of municipal reserve for part of a school site. The ASP also indicated that if a school site was not required at subdivision stage, the land could be used for residential development. Both the Lakeland Catholic School District and the Northern Lights School Division have verbally indicated that no school site will be required for this area. We anticipate correspondence to confirm the deletion of the school site to follow.

6.0 Development Sequence

It is anticipated that the development would commence from the north portion of the property extending from 55 Street and 47 Avenue south toward the intersection of 43 Avenue. Continued development of the are will focus on infilling the east portion of the property before continuing on to the west portion. The timing of the development will be dictated by market conditions. See Figure 9 for anticipated development staging of phase 1 and future development phases.

Development will conform to the City of Cold Lake Municipal Engineering Servicing Standards and Standard Construction Specifications in place at the time the development occurs.

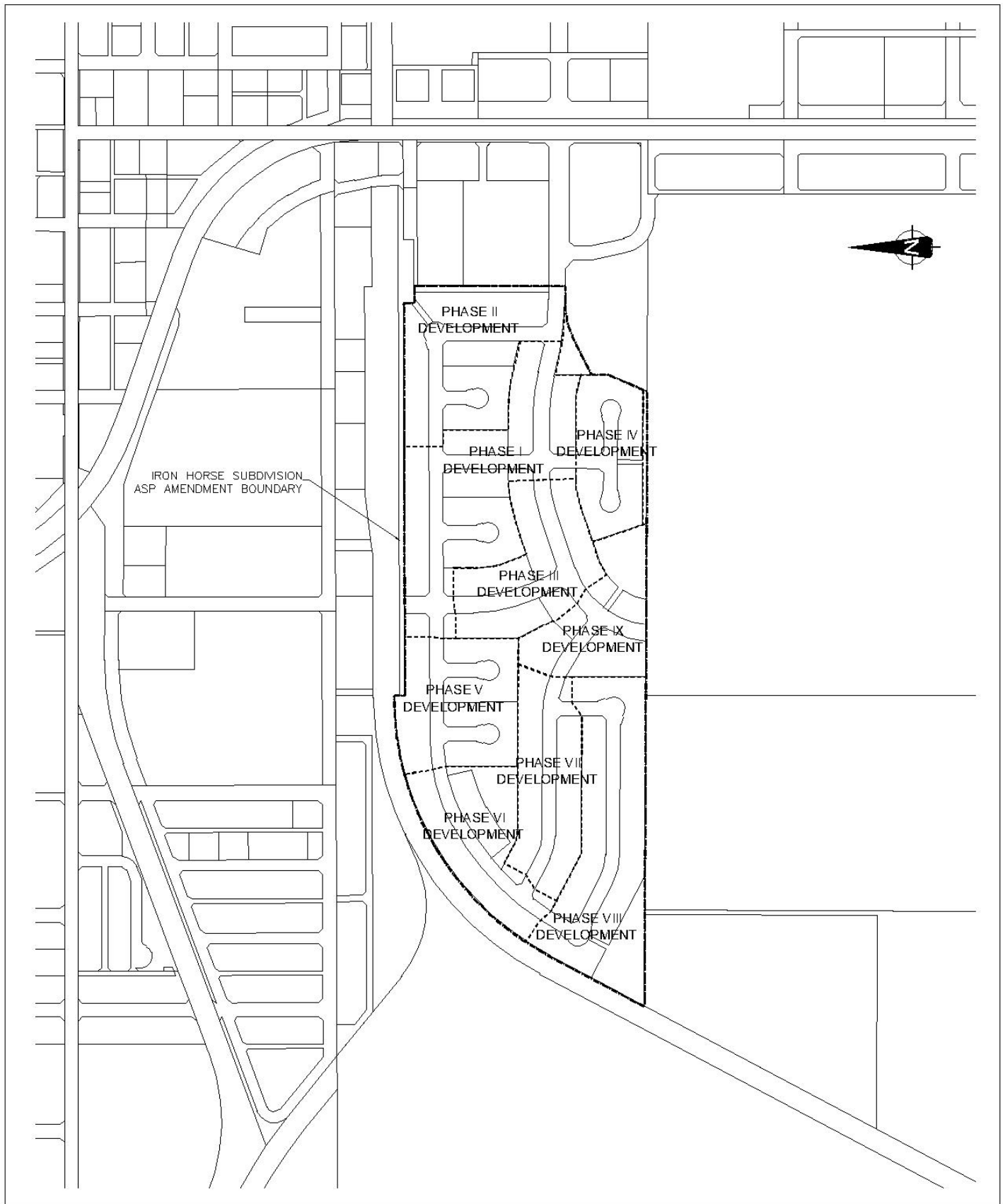


Figure 10 - Development Phasing