

Northshore Vista Area Structure Plan



Bylaw 685-LU-21 Appendix 'A'

November 2020



SE DESIGN AND CONSULTING INC.

ENGINEERS • CONSULTANTS • SURVEYORS

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1.0 Introduction

Initiated by the landowner Cold Lake Properties Development Inc., the purpose of the Northshore Vista Area Structure Plan (ASP) is to delineate a planning framework to develop 65.02 hectares into a residential community within the legal jurisdiction of the City of Cold Lake as illustrated in **Figure 1 – Site Location**. In accordance with Section 633 of the Municipal Government Act (MGA), the preparation and submission of the ASP conforms to the general policies stated in the City of Cold Lake Municipal Development Plan Bylaw #291-LU-07. The ASP describes the following:

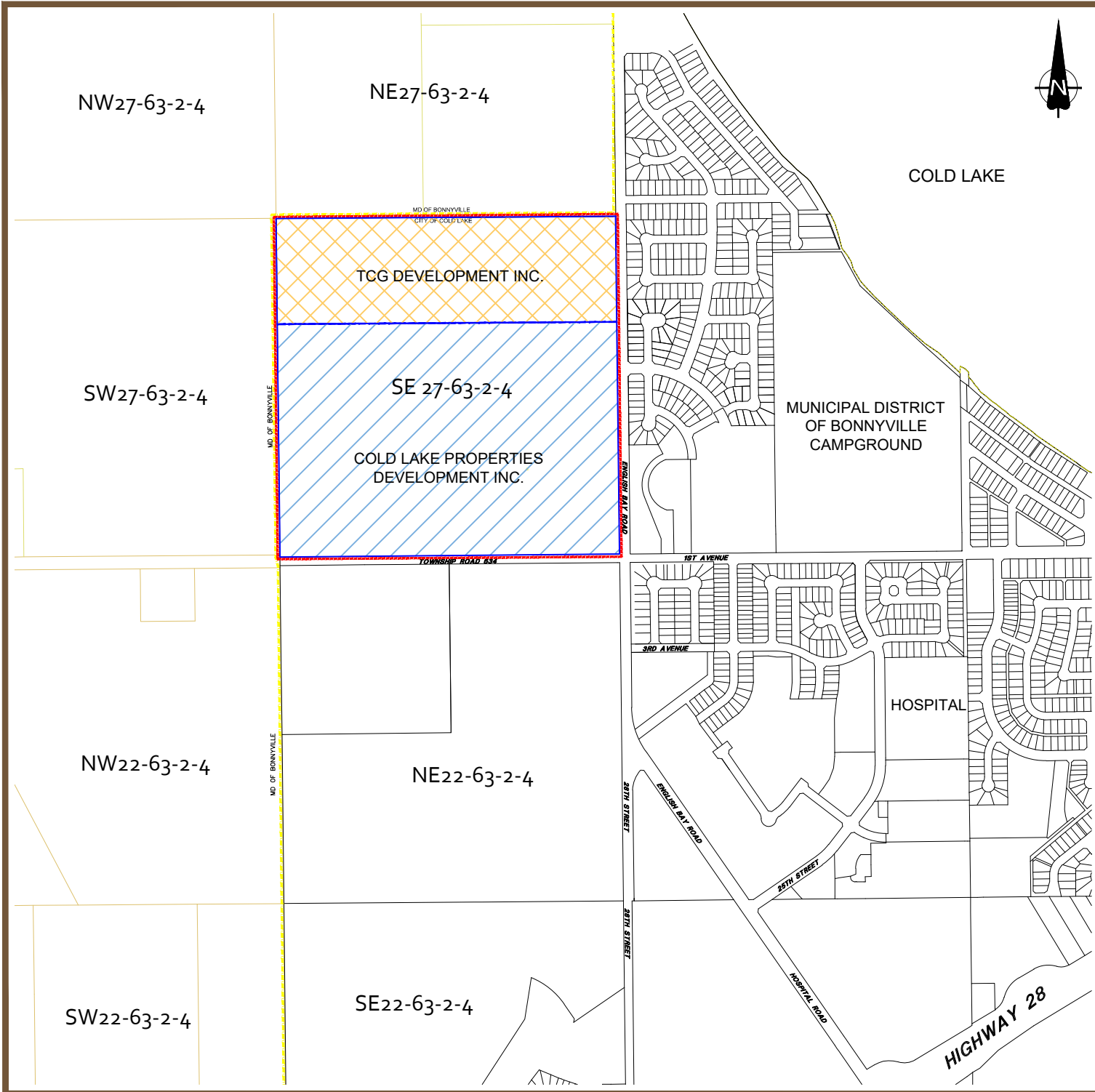
- Compliance to the municipal planning framework;
- The sequence of development proposed for the area;
- Land uses and proposed densities for the area;
- Impact on adjacent land uses;
- Internal and external circulation including impact on the surrounding transportation system;
- Assessment of the land's suitability for the proposed development including consideration for environmental, historical and cultural aspects;
- Infrastructure services;
- Stormwater management and drainage;
- Municipal and Environmental Reserves; and
- Community services.

1.1 Location

Located in the northwest part of the City of Cold Lake, the Northshore Vista ASP boundary contains the South East Quarter Section 27-63-2-W4M. The Plan area is bound by English Bay Road (28th Street) to the east, 1st Avenue (Twp Rd 634) to the south, and the municipal boundary for lands in the Municipal District of Bonnyville to the north and west. **Figure 1 – Site Location** illustrates the ASP location.

1.2 Ownership

The plan area consists of two parcels, each with a different landowner; Cold Lake Properties Development Inc., are the owners of the southern portion, and TCG Development Inc. own the area in the northern portion. This is illustrated on **Figure 1 – Site Location**. The plan has been prepared on behalf of the registered landowners.



NORTHSHORE VISTA
SE 27-63-2-4
City of Cold Lake
Area Structure Plan

Legend:

- - ASP BOUNDARY
- - MUNICIPAL BOUNDARY
- - OWNERSHIP BOUNDARY
-  - TCG DEVELOPMENT INC.
-  - COLD LAKE PROPERTIES DEVELOPMENT INC.

Figure 1
Site Location

2.0 Planning Context

The Municipal Government Act (RSA 2000, M-26) (the Act) legislates municipal planning. Section 633 of the Act gives municipalities the power to adopt an ASP as a bylaw. This ASP has been prepared within the context of the approved statutory plans for the City of Cold Lake, as well as other non-statutory master planning and servicing documents that provide guidance for future land use and development initiatives.

2.1 Alberta Land Stewardship Act

Under the authority of the *Alberta Land Stewardship Act* (ALSA) and the *Alberta Land-use Framework* (ALUF), the Province requires that municipal planning including the Municipal Development Plan, be compliant with the provisions of the Regional Plan. The City of Cold Lake is located within the Lower Athabasca Regional Plan. This ASP complies with the Municipal Development Plan which has been approved under the Regional Plan.

2.2 Intermunicipal Development Plan (IDP) Bylaw 346-LUB-08

The ASP abuts the IDP boundary adopted by both the City of Cold Lake and the Municipal District of Bonnyville as illustrated in the IDP Map 7: Future Land Use Concept. Pursuant to the Act, the IDP encourages:

“adjoining municipalities to cooperate in the planning of future land uses in the vicinity of boundaries (fringe areas) respecting the interests of both municipalities and in a manner that does not inhibit or preclude appropriate long-term use or unduly interfere with the continuation of existing uses.”

The objectives of the IDP land use concept include:

- to provide a gradual transition from urban to rural land use patterns;
- to protect water courses and natural areas;
- to maintain a reasonable stock of agricultural land;
- to maintain required buffers from landfill areas;
- to consider economic development opportunities as providing for a wider range of usages and forms of development.

Referral of this ASP to the Municipal District of Bonnyville will be required for review and comment prior to adoption by the City of Cold Lake. As illustrated in the IDP Map 7, the future land use to the north and west of the Northshore Vista ASP is described as agricultural/rural.

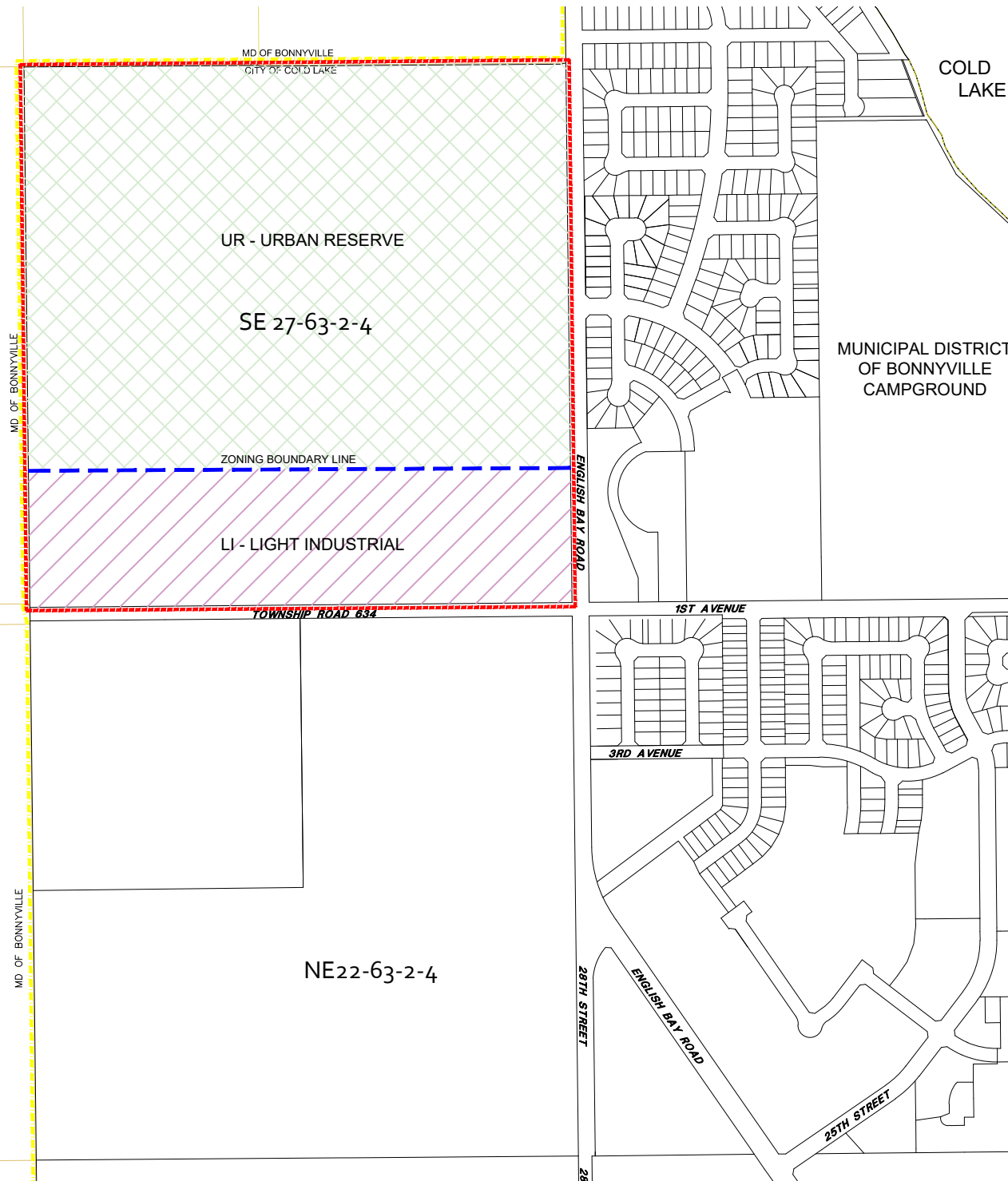
2.3 Municipal Development Plan 2007 (MDP) Bylaw 291-LU-07

The City of Cold Lake Municipal Development Plan (MDP) (2007) designates the plan area for low density residential use. The Northshore Vista ASP is consistent with the land use established in the MDP Map 2 – Future Land Use Concept. This document has been prepared in accordance with Policy 16.4 of the MDP outlining the requirements for Area Structure Plans.

Among the ASP requirements of the MDP, are environmental management goals aimed to ‘protect and integrate natural areas in new development and making land use decisions that maintain environmental quality for future generations. The technical studies completed in preparation of this plan include a Phase I Environmental Impact Assessment, Limited Environmental Overview and Wetland Assessment & Impact Report (WAIR), Traffic Impact Assessment, Hydrotechnical Assessment and a Geotechnical Investigation, which are detailed in the following sections and attached in the appendices. A review or update of any of the technical studies may be required at the time of development approval to ensure compliance with regulations current at the time.

2.4 Land Use Bylaw (LUB) 382-LU-10

The Land Use Bylaw 382-LU-10 for the City of Cold Lake controls development of land within its jurisdiction. The current districting for the south portion of the plan area is Light Industrial and the north portion is Urban Reserve, illustrated in **Figure 2 – Existing Districting**. Changes to the land use districts to be consistent with this ASP will be required through an amendment to the LUB (redistricting) ahead of development.



NORTHSHORE VISTA

SE 27-63-2-4

City of Cold Lake

Area Structure Plan

Legend:

- ASP BOUNDARY
- MUNICIPAL BOUNDARY
- UR - URBAN RESERVE
- LI - LIGHT INDUSTRIAL

Figure 2
Existing Districting

2.4.1 Airport Protection Zone

The plan area is located within the boundaries of the Airport Zoning Index Plan as prescribed by CFB Cold Lake, which is subject to federal jurisdiction. The Federal Government through Transport Canada and the Aeronautics Act regulate the operations of an airport, air space and aeronautical operations. Noise Exposure Forecast (NEF)/Noise Exposure Projection (NEP) contours approved by TC Aviation are to be used in conjunction with TP 1247 - Aviation - Land Use in the Vicinity of Airports guidelines to encourage compatible land uses in the vicinity of airports. Local authorities responsible for land use and zoning of the affected land should use the official contours.¹ The ASP boundary is located inside the Bird Hazard Zone, as illustrated in Schedule B of the Land Use Bylaw 382-LU-10, and the Department of National Defence (DND) map as referenced in the Hydrotechnical Assessment prohibiting the use of wet pond stormwater management facilities.

2.4.1.1 Noise Regulations

Although the plan area falls under municipal jurisdiction, the federal government has authority over noise management and land use regulations related to the operation of airports. Consideration for CFB Cold Lake as a nearby land use has been made using the Noise Exposure Forecast (NEF) to predict the degree of community annoyance from aircraft noise and airports. The ASP falls outside the NEF contours as outlined in Schedule B of the Land Use Bylaw 382-LU-10 Noise Exposure Forecast (NEF) Contours and poses no land use conflict related to airport activity.

¹ <http://laws-lois.justice.gc.ca/eng/regulations/sor-91-253/FullText.html>

2.5 Public Consultation

The developer held a public Open House at the Lakeland Inn on March 27, 2018 from 5:30 pm to 8:00 pm for adjacent landowners. The Open House was advertised through the local paper for two consecutive weeks and a letter drafted by the proponent with a covering letter from the City of Cold Lake was sent to adjacent landowners within a 65-metre radius from the amendment area boundary.

There were 11 adjacent landowners who attended the Open House. The developer's consultant had verbal discussions with attendees and received two completed surveys from those attending regarding the amendment. The main issue raised during the Open House was with respect to the medium and high-density residential uses proposed for the Plan area. These proposed land uses are required by the Cold Lake Municipal Development Plan and is considered good planning practice to ensure a variety of housing options are developed in new neighbourhoods. No revisions were made to the ASP. No additional comments were received by the developer as a result of the circulation.

3.0 Development Context

3.1 Topography and Natural Features

Figure 3 - Natural Features and Development Constraints depicts a recent air photo of the site. The site is undulating with a few pockets of tree stands and an intermittent stream located within the northeast portion. The dominant landform within the study area is hummocky, low to medium relief with a limiting slope of 9%. Elevations range from approximately 540 metres (above sea level) in the southeast portion to 554 metres (above sea level) in the northeast areas as shown in **Figure 4 – Existing Topography**. Precipitation is generally absorbed by the site soils and drain to the east toward the intermittent stream and slough area. **Figure 5 – Existing Site Photos** provide several images of the site in its present condition.

3.2 Soil Suitability

A site specific preliminary geotechnical investigation was carried out by AMEC Earth and Environmental and summarized in a report dated April 2008. A series of 29 boreholes were drilled in an approximate 130 m by 160 m grid pattern at depths ranging between 6.1 m to 8.1 m below the existing ground surface. The report summarizes the general subsurface soils conditions consistent with topsoil underlain by clay till. Sand layers were encountered in only five locations. Groundwater levels in standpipes installed across the plan area were measured at the completion of drilling. Groundwater depths ranged from 2.7 metres to below the depth of exploration, which ranged from 6.1 metres to 8.1 metres.

The investigation concludes that the plan area is considered suitable for the proposed development. Additional recommendations are provided for site specific development, grading, residential construction, the construction of roadways, the installation of sewer and water systems and the construction of stormwater management facilities.

The full report is provided in the appending documents which details all the described recommendations and if any further geotechnical investigations may be required within the plan area.

NORTHSHORE VISTA

SE 27-63-2-4

City of Cold Lake

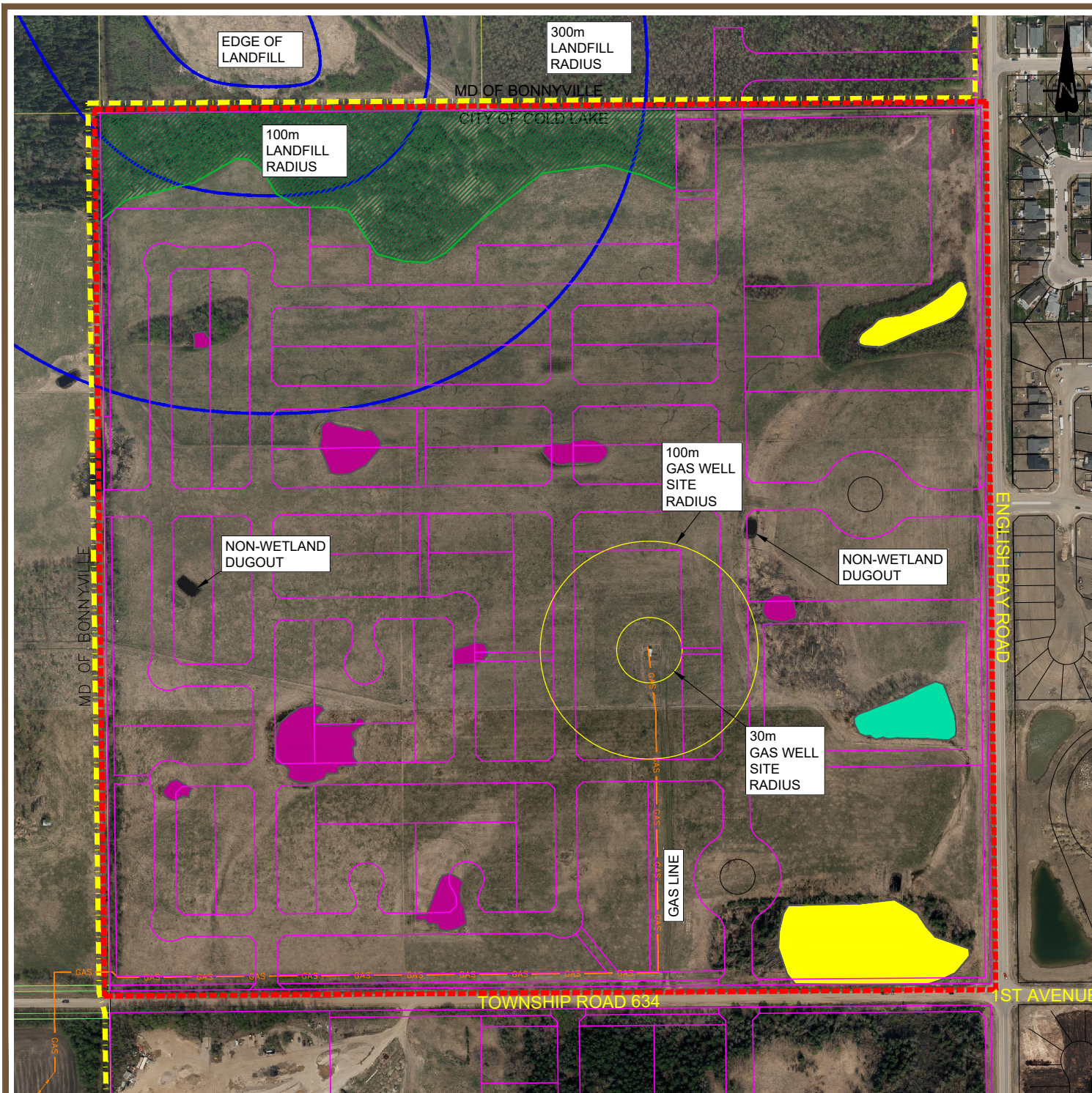
Area Structure Plan

Legend:

- - - - ASP BOUNDARY
- ||||| - MUNICIPAL BOUNDARY
- - GAS LINE
- - LANDFILL RADIUS
- - GAS WELL SITE RADIUS
- - TEMPORARY GRAMINOID MARSH
- - SEASONAL SHRUBBY SWAMP
- - SEASONAL SHALLOW OPEN WATER
- ▨ - AREA OF DECIDUOUS FOREST

Figure 3
Natural Features
and
Development Constraints

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NORTHSHORE VISTA
SE 27-63-2-4
City of Cold Lake
Area Structure Plan

Legend:

- ASP BOUNDARY
- MUNICIPAL BOUNDARY
- MAJOR CONTOURS
- MINOR CONTOURS

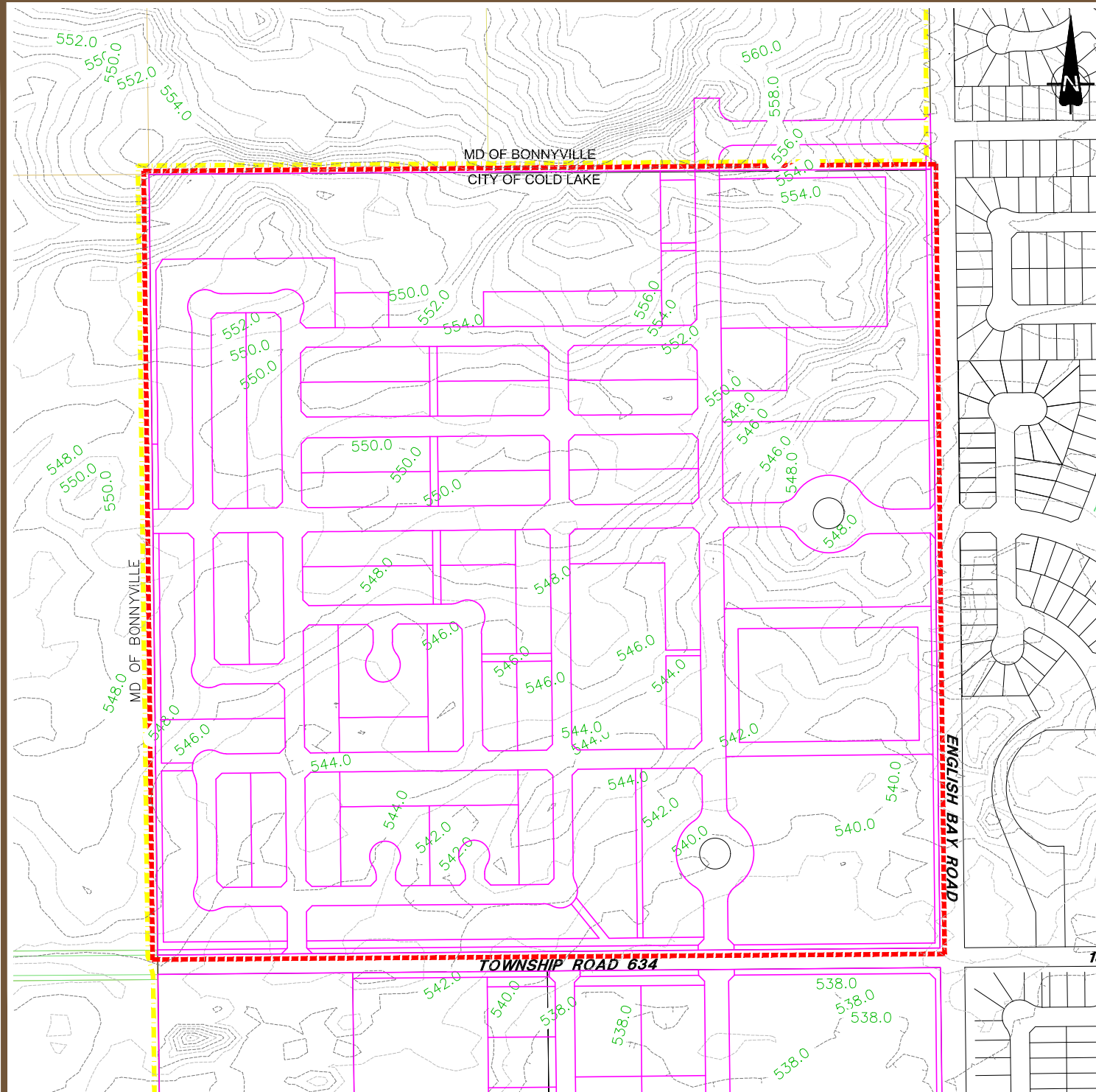


Figure 4
Existing Topography



Figure 5 – Existing Site Photos

3.3 Phase I Environmental Site Assessment (ESA)

A Phase I Environmental Site Assessment was conducted by AMEC Earth & Environmental in June 2007. The purpose of the Assessment is to identify potential or actual environmental contamination that could be associated with the current and past activities in the ASP area, and to determine if additional investigations are recommended. The full report can be found in the appending documents.

The findings of the Assessment conclude the following:

- Gas well – Recommend undertaking a Phase II ESA adjacent to the lease to determine the presence and degree of impacts associated with the produced water. Note: this will not be required while the gas well remains in production and the 100-metre setback is imposed. This will need to be addressed when the reclamation of the gas well is initiated. No development within the 100-meter radius will proceed until the reclamation certification is issued by Alberta Energy Regulator;
- Former sewage lagoon – Recommend undertaking a Phase II ESA to determine the presence and degree of impacts, if any, associated with sewage, at the time of development approval;
- Former landfill to the north of the site – A former landfill is located approximately 250-300 metres to the north. There are no apparent sources of contamination having the potential to impact the site on neighbouring properties. Alberta Regulation 43/2002 states that a development permit for a subdivision for school, hospital, food establishment or residential use shall not be issued if the building will be located within 300 metres of the disposal area of an operating or non-operating landfill. The ASP designates a 300-metre setback for all such uses, unless conditions change to grant a variance. Development of Phase VI is only conceptually illustrated in the event a variance be granted in regard to the setback requirements for the landfill, and no development of Phase VI shall proceed until such time.

3.4 Environmental Overview and Wetland Assessment & Impact Report (WAIR)

A WAIR was completed in May 2016, and updated in January 2017, the purpose was to identify and document important environmental features within the proposed development area, assess potential impacts resulting from the project and summarize recommended mitigation measures. It also outlines

potential regulatory requirements and compliance. The WAIR satisfies the requirements of municipal policies and bylaws, and provincial requirements namely under the *Water Act* and *Public Land Act*.

In summary, the Plan area is located in the Boreal Natural Region, Dry Mixedwood Subregion. There is a mixedwood forest along the northern boundary of the site, as well as several aspen dominated forests within the study area. The site is dominantly pasture vegetated by hayed upland grasses with small forested areas. Part of the study looked at wildlife including waterfowl, birds, amphibians, and fish and aquatic ecosystems.

The WAIR provides an overview of the wetland features characterized during the field reconnaissance. A wetland is defined as land that is saturated with water for a long enough time period to promote formation of water altered soils, growth of water tolerant vegetation and various kinds of biological activity that are adapted to wet environments (Alberta Wetland Classification System, June 2015). Eleven wetlands were observed on site as well as four constructed dugouts, a well pad and a drainage pathway. Fourteen potential wetlands were identified through historical air photo analysis. Upon further analysis, eleven total wetlands were delineated based on the adopted definition and are summarized in Table 9 Wetland classification – summary (WAIR pg.45). Authorization is required under the *Water Act* for disturbance to the wetlands, as per Alberta Wetland Policy, 2013, based on the relative wetland value category. The Policy focuses on avoidance and minimization of impacts on all wetlands, regardless of their relative value category. In this case, the developer will be responsible to provide compensation for the loss of wetland. Under the *Public Land Act* a Crown claimability request should be submitted to the Alberta Environment and Parks (AEP) as to whether an authorization under the Act is required since three wetlands are classified as seasonal. The WAIR further provides recommendations for the timing of land disturbance and impacts on wildlife, which can be found in Appendix III of this ASP.

3.5 Natural Resources and Man-Made Constraints

Preliminary investigations in preparation for this plan indicate that no sour gas facilities are present within or in the vicinity of the proposed development. This assessment is provided by the Alberta Energy Regulator (AER) and is available in the appending documents. The plan area includes one active gas well site owned by Husky Oil Operation Limited, due to the nature of this constraint, design initiatives depict this area would be a suitable location for future park and open space. The site also includes an active natural gas pipeline, which extends south from the gas well site and then heads

west adjacent to the plan's south boundary. The active gas well site is located within Phase II of the development sequence. Phase II will not proceed while the gas well is operational, due to the 100-meter development setback radius from a gas well requirement, as per the Subdivision and Development Regulation. Once abandoned and a reclamation certificate has been issued by AER, the gas well site radius will be reduced to 30-meters in perpetuity. In the interim, the gas well site development setback radius of 100-meter will remain. The gas well site, setback and the approximate location of the pipeline are conceptually illustrated in **Figure 6 – Development Concept** and **Figure 2 – Natural Features and Development Constraints**. The location of the gas well site and required setback shall be surveyed at the time of subdivision approval.

3.6 Existing and Adjacent Land Use

The ASP is located within the City of Cold Lake municipal boundary and bound by the jurisdiction of the Municipal District of Bonnyville to the north and west. The plan area is currently undeveloped predominantly being cultivated for agricultural purposes. Some portions are tree covered and one active gas well is located in the eastern portion of the plan area. The properties located adjacent to the plan include industrial, residential, and agricultural land use as follows:

- Pastureland is located to the north;
- Across English Bay Road to the east is a developing residential area;
- Agricultural cropland, existing industrial operation and developing light industrial to the south;
- Pastureland including farmyard, cropland and an oil well to the west.

The ASP is compatible with the existing land uses.

3.7 Historical and Cultural Resources

Based on a referral to Alberta Culture and Tourism, the Historical Resources Management Branch indicated the site has low potential for archaeological or paleontological resources. Alberta Culture and Tourism provided approval to proceed under the authority of the *Historical Resources Act* (the Act) in a letter dated March 10, 2016 and is provided in the appending documents. Under provisions of the Act, the standard approval includes terms and conditions that require the reporting and further compliance should any historic resources be discovered during any land disturbance by developers.

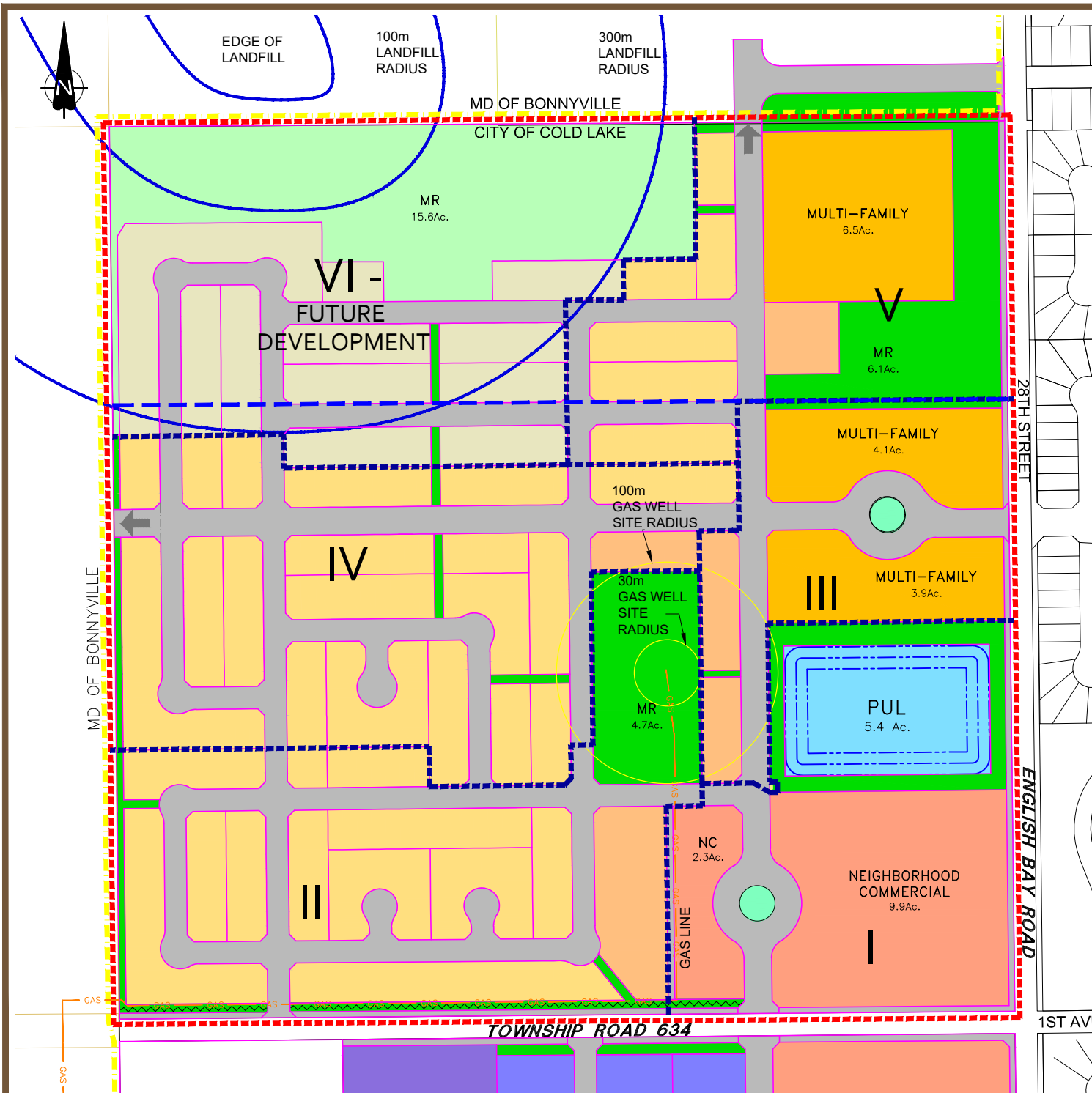
NORTHSHORE VISTA SE 27-63-2-4 City of Cold Lake Area Structure Plan

Legend:

- - ASP BOUNDARY
- - MUNICIPAL BOUNDARY
- - OWNERSHIP BOUNDARY
- - PHASE BOUNDARY
- - GAS LINE
- - MR - MUNICIPAL RESERVE
- - MR - FUTURE PHASE VI
- - PUL - PUBLIC UTILITY LOT
- - LOW DENSITY RESIDENTIAL - FUTURE PHASE VI
- - LOW DENSITY RESIDENTIAL
- - MEDIUM DENSITY RESIDENTIAL
- - MULTI-FAMILY RESIDENTIAL
- - RESIDENTIAL MIXED USE
- - NEIGHBORHOOD COMMERCIAL
- ~ - 8.0m PROPOSED LANDSCAPE BERM AND PERIMETER FENCE
- - POTENTIAL CONNECTION TO ADJACENT LAND

Figure 6
Development Concept

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4.0 Land Use

Characterized by traditional urban design features, the Northshore Vista ASP development concept strives to create a complete mixed-use residential community as illustrated in **Figure 6 – Development Concept**. The design considers the existing environment by retaining natural features and following existing drainage patterns, where possible. Using a modified grid road layout allows for better connected vehicular, pedestrian and bike systems among residence, park and shopping spaces. Key sites have been selected for additional design features, such as boulevards and cul-de-sacs to enhance the sense of place.

Northshore Vista ASP Goals:

1. Integrate a variety of housing types and forms to ensure social and economic diversity to achieve a 60/30 ratio of low to medium/multi-family density of residential units' percentage;
2. Ensure a walkable, multi-modal community with well-defined linkages to internal and adjacent amenities by minimizing block lengths with pedestrian access points;
3. Integrate and preserve existing natural features into the parks and open spaces; and
4. Efficiently and economically extend infrastructure and transportation services into the new community.

4.1 Land Use Statistics

This Plan includes estimated land use statistics and population allocation for this area as described in **Table 1 – Land Use Allocation and Population**. The Gross Developable Area (GDA) is 65.02Ha and the Net Developable Area (NDA) is 36.29 Ha. The distribution of residential land use will be as follows: low density 35.1%, medium density 4.1%, multi-family 9.1%, and neighbourhood commercial 7.6% of the NDA. The unit distribution in the Plan area is as follows: low density residential 55.4%, medium density 10.3%, multifamily 34.4%. The gross residential density will be 37 pp/Ha-GDA and a net residential density will be 23 units/Ha-NDA.

4.1.1 Population

The estimated population for the Northshore Vista ASP is expected to be 2,388 persons in 824 units. The school population for the entire plan area is estimated to be 482 students with K-9 accounting for 66.2% of the student population and Grades 10-12 accounting for the remaining 33.8%. See **Table 1 – Land Use Allocation and Population** for further information.

Table 1- Amended Land Use Allocation and Population

Use	Current Total ASP Area (Ha)	GDA (%)						
Gross Area	65.02							
Gross Developable Area	65.02	100.0						
Non-Residential Uses								
Parks/Municipal Reserve	12.85	19.8%						
Storm Water Management/PUL	2.17	3.3%						
Circulation	13.71	21.1%						
Total	28.73	44.2%						
Residential Uses			Units	Units %	Population	Population %	GDA Density pp/Ha	NDA Density units/Ha
Low density residential	22.82	35.1%	456	55.4%	1,579	66.1%	-	-
Medium Density Residential	2.64	4.1%	84	10.3%	270	11.3%	-	-
Multi-Family Residential	5.9	9.1%	283	34.4%	538	22.5%	-	-
Neighbourhood Commercial	4.93	7.6%					-	-
Total	36.29	55.8%	824	100.0%	2,388	100.0%	37	23
Land Uses - Total								
	65.02	100.0%						

Density Calculations	Residential Density (units/ha)	Population Density
Low Density- Single detached	20.00	3.46 pp/unit
Medium Density	32.00	3.2 pp/unit
Multi-Family Residential	48.00	1.9 pp/unit

*Est. total Student Population	482
Kindergarten- Grade 9	319
Grades 10-12	163

*Student generation (students/unit), 20.2% of total pop (ages 5-19), based on 2011 census data; K-9 66.2% students, 10-12 33.8% of students

4.2 Low Density Residential

Low density residential accounts for 22.82 hectares as the predominant land use for Northshore Vista which is consistent with low-density residential use already developed in the vicinity. Low density is located in proximity to future neighbourhood commercial use and is well-connected to the local and wider parks and open space system. In order to achieve a quality-built environment, a restrictive covenant will be registered on title by the developer that will include the design objectives. Upon the adoption of the plan, the redistricting of the lands will be undertaken according to the Land Use Bylaw following subdivision approval and the execution of a development agreement for the pertinent phase of the development.



source: <http://whitecenterblog.com>

Low Density Residential Design Objectives:

1. Ensure a variation in housing façade treatments to achieve a more attractive streetscape;
2. Housing forms that reduce the visual impacts of garages;
3. Provide additional buffers for land use transitions between low density residential housing and all other land uses using landscaping, site orientation, architectural elements, and changes to elevation. A berm with a dense avenue of boulevard trees and hedges shall be required along the south plan boundary adjacent to low density residential areas;
4. Retain rows and/or cluster of healthy trees in site design especially near property lines, where possible; and
5. Residences shall make additional improvements to front yards, and when applicable side yards, with appropriate landscaping including walkways, shrubs and trees.

4.3 Medium Density Residential

Medium density residential accounts for 2.64 hectares of land within the plan area. Medium density housing may consist of a variety of detached and attached dwellings. The intent is to intersperse medium density housing forms within the low density residential area to increase density while maintaining the low density character of the community. Medium density offers additional affordable options in the housing market and can visually transition land use from lower density to higher density residential. Medium density housing has additional design objectives to the low density residential design objectives. In order to achieve a quality-built environment, a restrictive covenant will be registered on title by the developer that will include the design objectives. Upon the adoption of the plan, the redistricting of the lands will be undertaken according to the Land Use Bylaw following subdivision approval and the execution of a development agreement for the pertinent phase of the development.



buzzbuzzhome.com/ca/duplex-homes-in-the-orchards

Medium Density Residential Design Objectives:

1. Site design should create opportunities to share driveways to reduce run-off, increase space for landscaping and provide less interruption to the flow of sidewalks;
2. Ensure a variety of medium density housing form and design, including an area dedicated to rear lane access; and
3. Buildings on sites facing public streets and areas should have detailed facades on all visible sides.

4.4 Multi-Family Residential

Multi-family residential accounts for 5.90 hectares of land in the plan area. Multi-family housing may consist of a variety of four-plexes, townhouses, stacked townhouses and eight-plex dwellings. Areas identified for multi-family housing are located along the community peripheries providing convenient access to major collector and arterial roadway connections thereby reducing neighbourhood thru-traffic to these sites. The multi-family residential creates a clear community boundary while increasing population proximity to commercial services, park amenities and potential future public transit stops. Multi-family sites are within close walking distance to well-connected regional park spaces. Multi-family housing has additional design objectives to the low and medium density residential design objectives. In order to achieve a quality-built environment, a restrictive covenant will be registered on title by the developer that will include the design objectives. Upon the adoption of the plan, the redistricting of the lands will be undertaken according to the Land Use Bylaw following subdivision approval and the execution of a development agreement for the pertinent phase of the development.

Multi-Family Residential Design Objectives:

1. Seamlessly transition private amenity areas with the public realm in the site design of multi-family housing, specifically pedestrian connections and landscape design;
2. Locate buildings on key sites, such as intersection corners, that are designed with landmark features which reinforce prominence and sense of place; and
3. Ensure a variety of multi-family density housing form and design.

4.5 Neighbourhood Commercial

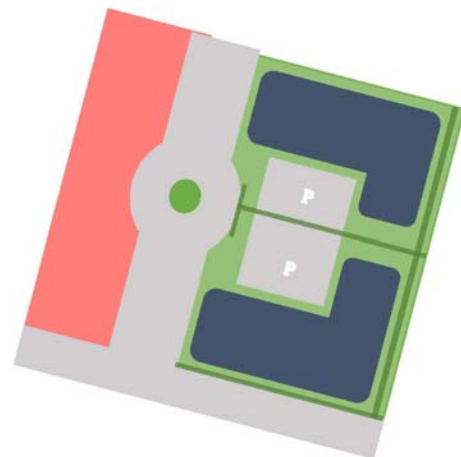
Neighbourhood Commercial accounts for 4.93 hectares of land in the plan area. This commercial use is intended to provide small scale convenience services to adjacent residences. The intent is to provide for the day-to-day shopping needs of the local population, with a range of retail and service commercial uses on small sites that have minimal impact on the community. Large scale single users and businesses with drive-through facilities should be discouraged. Neighbourhood commercial sites will be located along the community periphery to increase the accessibility to these future services onto adjacent residential areas located to the east of the plan area. Upon the adoption of the plan, the redistricting of the lands will be undertaken according to the Land Use Bylaw following subdivision approval and the execution of a development agreement for the pertinent phase of the development.

Conceptual Illustration for neighbourhood commercial site design to achieve objective 2 in the southeast corner of the Plan.

Neighbourhood Commercial Design

Objectives:

1. Ensure appropriate landscaping, buffers and variation in materials for at grade parking areas, at least 3.0 metres wide near sidewalks;
2. Encourage a site design that minimizes the visual impact of parking lots and orients building closer to the sidewalk and public roadways;
3. Ensure appropriate screening for loading and building service areas; and
4. Connect commercial sites with multi-modal pathways.



4.6 Parks and Open Space

Within the plan area the park and open spaces are strategically located based on development constraints, with linear open spaces throughout, connecting the proposed park sites to create a loop network. Linear open spaces along the south boundary and north of the Neighbourhood Commercial parcel provide linkages to the existing park space in the subdivision to the east. Park amenities are within short walking distance for the majority of housing, as illustrated in **Figure 7 – Pedestrian Circulation and Connectivity** and linked to the overall open space system in the City of Cold Lake to create a more complete and livable community. Where appropriate, pedestrian linkages are conveniently located at mid-block locations to reduce walking distances to various destinations. Park sites are configured as per the City of Cold Lake Open Space and Linkages Plan (OSLP) adopted by a Resolution of Council on November 26, 2013. The purpose of the OSLP is to direct the acquisition and development of park spaces in the City to ensure that new Area Structure Plans conform with these standards. All parks shall be designed as per the City's Municipal Engineering Servicing Standards and Standard Construction Specifications, 2008, Section 12.

As required by the *Municipal Government Act (the Act)* the dedication of the municipal and school reserve is required at the time of subdivision, and normally is conceptually determined at the time of ASP preparation. The Act requires that a maximum of 10 percent of the land less environmental reserve is to be provided as municipal reserve for park purposes. The ASP provides 12.85 ha (31.75 ac) for future park development, approximately 19.8 percent of the GDA. The ASP allocates the following parks spaces as per the required standards for each category of park outlined in the OSLP:

- Two Neighbourhood Parks: one approximately 1.9 ha (4.7 ac) in size is centrally located and a second park along the east boundary 2.47 ha (6.1 ac) in size and located in proximity to multi-family residential;
- One Community Park: provided in the northern portion of the plan area approximately 6.4 ha (15.8 ac) in size; and
- Ten Linear Open Spaces and Buffers: Five of the linear open spaces are located mid-block within the single family, the other five are located to provide connectivity from an internal road to the linear buffers or connections among other land use. The buffers border the south and west boundaries. These linear park spaces amount to approximately 2.08 ha (5.14 ac) in total area, ranging 6.0 metres to 8.0 metres in width, and will increase pedestrian connectivity throughout the neighbourhood.

NORTHSHORE VISTA SE 27-63-2-4 City of Cold Lake Area Structure Plan

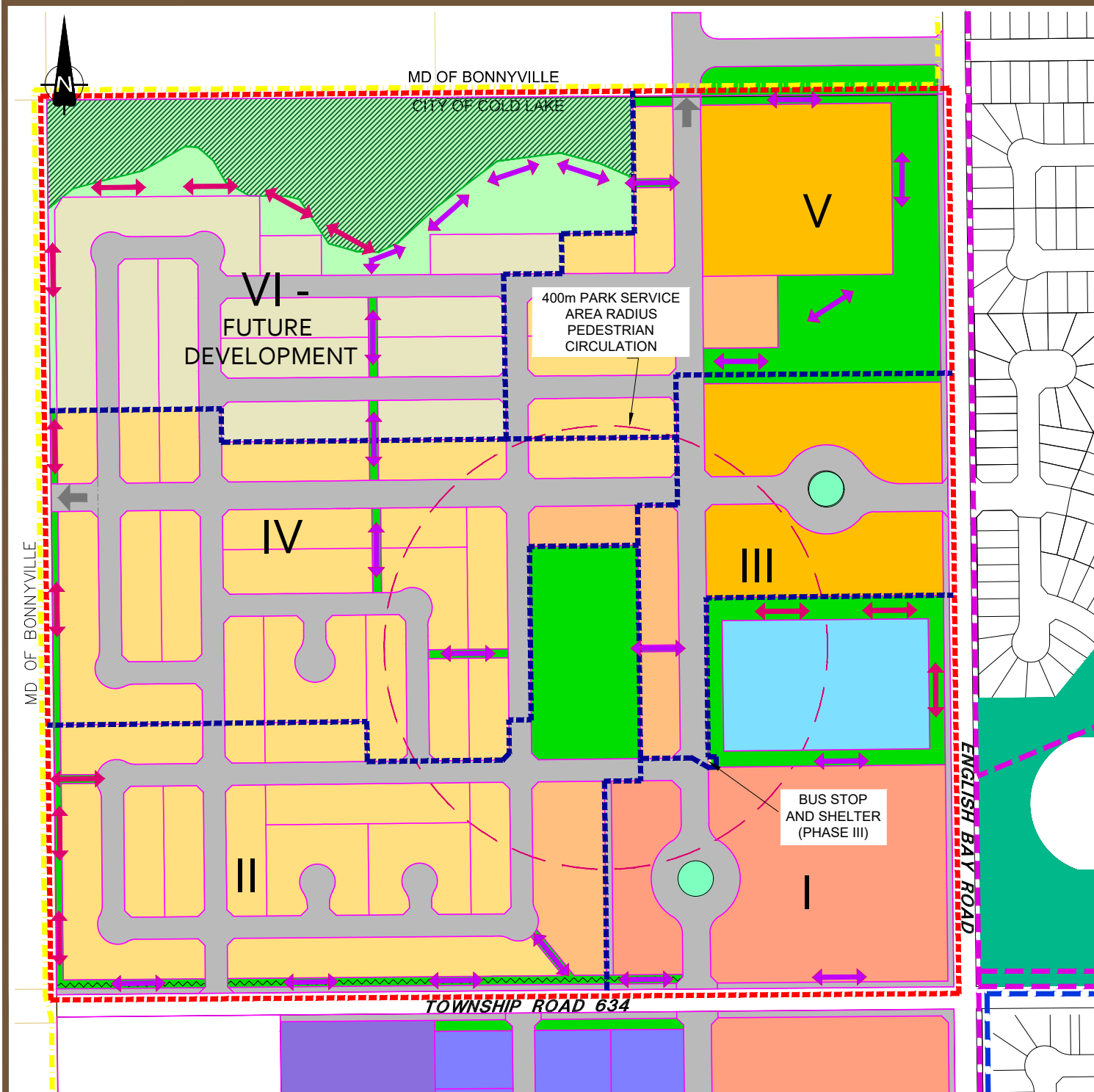
Legend:

- - ASP BOUNDARY
- - MUNICIPAL BOUNDARY
- - PHASE BOUNDARY
- - PROPOSED TRAIL-PEDESTRIAN
- - PROPOSED TRAIL-SNOWMOBILE
- ↔ - MULTI-MODAL PATHWAY
- ↔ - PEDESTRIAN CIRCULATION
- - MR - MUNICIPAL RESERVE
- - MR - FUTURE PHASE VI
- - PUL - PUBLIC UTILITY LOT
- - LOW DENSITY RESIDENTIAL - FUTURE PHASE VI
- - LOW DENSITY RESIDENTIAL
- - MEDIUM DENSITY RESIDENTIAL
- - MULTI-FAMILY RESIDENTIAL
- - RESIDENTIAL MIXED USE
- - NEIGHBORHOOD COMMERCIAL
- ~ - 8.0m PROPOSED LANDSCAPE BERM AND PERIMETER FENCE
- ▨ - AREA OF DECIDUOUS FOREST
- - FUTURE BUS STOP AND SHELTER

NOTE: PROPOSED TRAIL LOCATIONS
APPROXIMATED FROM THE CITY OF COLD LAKE
OPEN SPACE AND LINKAGES PLAN, APPENDIX C
- CITY OF COLD LAKE LINKAGES.

Figure 7
Pedestrian Circulation
and Connectivity

SE DESIGN AND CONSULTING INC.



4.7 Infrastructure and Services

Infrastructure and services for the Northshore Vista ASP shall be provided according to the following descriptions and conceptual figures; **Figure 6 – Development Concept, Figure 8 – Water Distribution System, Figure 9 – Sanitary Collection System, Figure 11 – Overall Northshore Drainage Parkway and Figure 12 – Stormwater Collection System Final Configuration.** Generally, all infrastructure services shall be designed and constructed in an efficient and cost-effective manner.

4.7.1 Transportation

4.7.1.1.1 Roadways

The development includes five access points: three from existing roads, one onto English Bay Road located to the east and two on to 1st Avenue (Twp Rd 634) to the south; and two to be developed to connect to lands to the north and west. As shown in **Figure 6 – Development Concept**, the roadway pattern is a modified grid of predominantly local roads designed to accommodate the increased vehicular flow and provide options to reduce distances for multi-modal connectivity, particularly for pedestrians and cyclists. The plan allocates two local collector roadways, each including a roundabout: one running north-south and the other east-west. The roundabouts have been conceptually illustrated, details of their exact location and sizing will be in accordance with City Standards to ensure bus maneuverability and to maintain acceptable distances from adjacent intersections. Roundabouts are to be landscaped at the time of development. The following image illustrates a visual concept for the development's local collector roadways with a landscaped roundabout.



Existing arterial and collector roadways will connect to local roadways. Public transportation services may be provided to the plan area in the future. Roadways designated for a bus route and transit stop shall need to be designated as such. One future transit stop location is illustrated on **Figure 7 – Pedestrian Circulation and Connectivity**. The conceptual location is within the phase 3 boundary at the north side of the neighbourhood commercial area. We propose the bus stop would become active when the road looping is complete to accommodate the bus route, and when the area has sufficient passenger loading. The transit stop may include amenities such as a bench, signage and shelter. These amenities will be determined at the time of development agreement execution and according to the municipal specifications. All roadway hierarchies shall be constructed at minimum to the City's Municipal Engineering Servicing Standards and Standard Construction Specifications.

4.7.1.1.2 Traffic Impact Assessment

A Traffic Impact Assessment (TIA) in support of the Northshore Vista Area Structure Plan (ASP) was prepared by SE Design and Consulting Inc., in December 2018. In summary, the study analyzed the traffic impact the proposed development will have on the northwest portion of the City of Cold Lake in the vicinity of English Bay Road (28 Street) and 1st Avenue (Twp Rd 634) intersection. Existing conditions at the time of the study at the specified intersection are operating at acceptable levels of service. A background 2036 capacity analysis including additional development traffic indicates that improvements would be required to English Bay Road and 1st Avenue Intersection; and at various access points to the site. Additionally, capacity analysis in the interim at the year 2021 will require some mitigation to traffic control. A complete copy of the TIA is provided in the appending documents.

4.7.1.1.3 Pedestrian Circulation and Connectivity

Pedestrian circulation and connectivity includes an interconnected system of sidewalks, linear open spaces (pathways or linkages), a multi-modal pathway and a Public Utility Lot. Sidewalks will be constructed along all roadways as per the City's Municipal Engineering Servicing Standards and Standard Construction Specifications, while linear open spaces are part of Municipal Reserve dedication and the parks and open space system. The multi-modal pathway is to be used for active mobility, including such activities as walking, cycling, running, and various roller-skating. Motorized off-highway vehicles and snowmobiles shall not be permitted on the pathway. This multi-modal pathway is designed as a unique feature along the south plan boundary (1st Avenue) adjacent to an eight-meter wide berm. It also allows for connections onto adjacent lands, providing additional

options for both pedestrian and bicycle transportation for residents. **Figure 7 – Pedestrian Circulation and Connectivity** illustrates the dedicated multi-modal pathway.

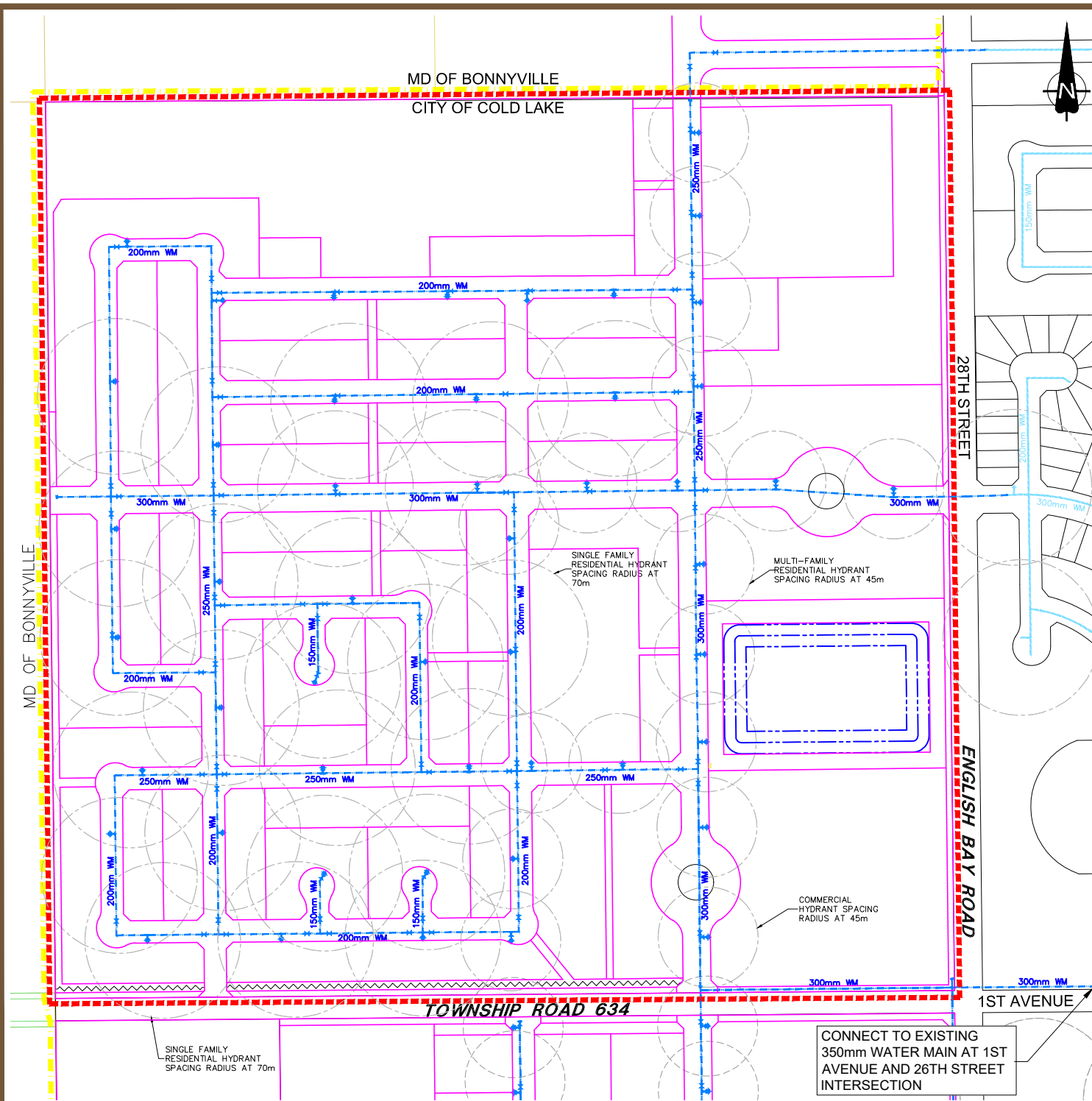
4.7.2 Water Distribution

As per the City of Cold Lake Water Master Plan Update, there is a proposed 400mm water line along English Bay Road (28th Street), crossing a proposed 300mm water line along 1st Avenue, which connects from the existing 350mm water line at the 1st Avenue and 26th Street intersection. Phase I will tie into this existing 350mm water line and construct the 300mm water line as proposed along 1st Avenue bringing water service to the center of Phase I Neighbourhood Commercial lot and stub in at the road access. Phase III will implement a secondary connection with water services being extended from an existing 300 mm water line at English Bay Road (28th Street) and 26th Street, from the development located to the east. The distribution system will follow the roadway pattern and as staging proceeds will terminate at two locations to provide future extensions onto adjacent lands. Water servicing analysis may be required for specific higher density and/or commercial sites subject to the final development proposed. Water services and pipeline sizes are illustrated in **Figure 8 – Water Distribution System**.

4.7.3 Sanitary System

The Northshore Vista ASP will be serviced by a sanitary sewer system following the roadway alignments as per the City of Cold Lake standards. The sanitary sewer system truncates at three locations, two providing opportunities for future connections onto adjacent lands to the west and north, and the third is provided to accommodate the 3.8-hectare Neighbourhood Commercial lot in the southeast corner. The local sanitary collection system concept is illustrated in **Figure 9 – Sanitary Collection System**. The sanitary trunk collection system will run south along the west ditch of English Bay Road to tie-in to the existing 450mm trunk sanitary sewer manhole at the intersection of English Bay Road and 28th Street (Facility ID SAN_75 on the City Cold Lake Utilities and Infrastructure Map). The sanitary tie-in point is shown in **Figure 10 – Sanitary Collection System Tie-In**. The SE quarter section 27-63-2-4 is within the existing City Boundary shown on The City of Cold Lake Inflow – Infiltration Program - Figure 2.3, the lands that are within the 300m landfill radius are omitted from the Study Area Development Timeline of that quarter. The lands below the landfill radius have been identified as lands that are “Build-out to Current City Boundary” on the legend under Development Timing.

At the time of mitigation for the landfill constraints, the developer shall be responsible to assess and verify sanitary capacity prior to submitting an application for development of Phase VI of this Plan.



NORTHSHORE VISTA

SE 27-63-2-4

City of Cold Lake

Area Structure Plan

Legend:

- - - - - - ASP BOUNDARY
- - - - - - MUNICIPAL BOUNDARY
- - - - - - PROPOSED WATER MAIN
- - - - - - EXISTING WATER MAIN
- - PROPOSED HYDRANT
- - EXISTING HYDRANT
- ✕ - PROPOSED VALVE

Figure 8
Water Distribution
System

NORTHSHORE VISTA

SE 27-63-2-4

City of Cold Lake

Area Structure Plan

Legend:

- - - - ASP BOUNDARY
- - - - MUNICIPAL BOUNDARY
- - - - SANITARY TIE-IN BOUNDARY
- - PROPOSED SANITARY SEWER
- - EXISTING SANITARY SEWER
- - PROPOSED SANITARY MANHOLE
- - EXISTING SANITARY MANHOLE
- PROPOSED STORMWATER MANAGEMENT POND
- EXISTING STORMWATER MANAGEMENT POND

MD OF BONNYVILLE

MD OF BONNYVILLE
CITY OF COLD LAKE

28TH STREET

ENGLISH BAY ROAD

1ST AVENUE

TOWNSHIP ROAD 634

SEE FIGURE 10 FOR
SANITARY COLLECTION
SYSTEM TIE-IN

Figure 9
Sanitary Collection
System

SE DESIGN AND CONSULTING INC.

NORTHSHORE VISTA SE 27-63-2-4 City of Cold Lake Area Structure Plan

Legend:

- - ASP BOUNDARY
- - SANITARY TIE-IN BOUNDARY
- - PROPOSED SANITARY SEWER
- - EXISTING SANITARY SEWER
- - PROPOSED SANITARY MANHOLE
- - EXISTING SANITARY MANHOLE
- PROPOSED STORMWATER MANAGEMENT POND
- EXISTING STORMWATER MANAGEMENT POND

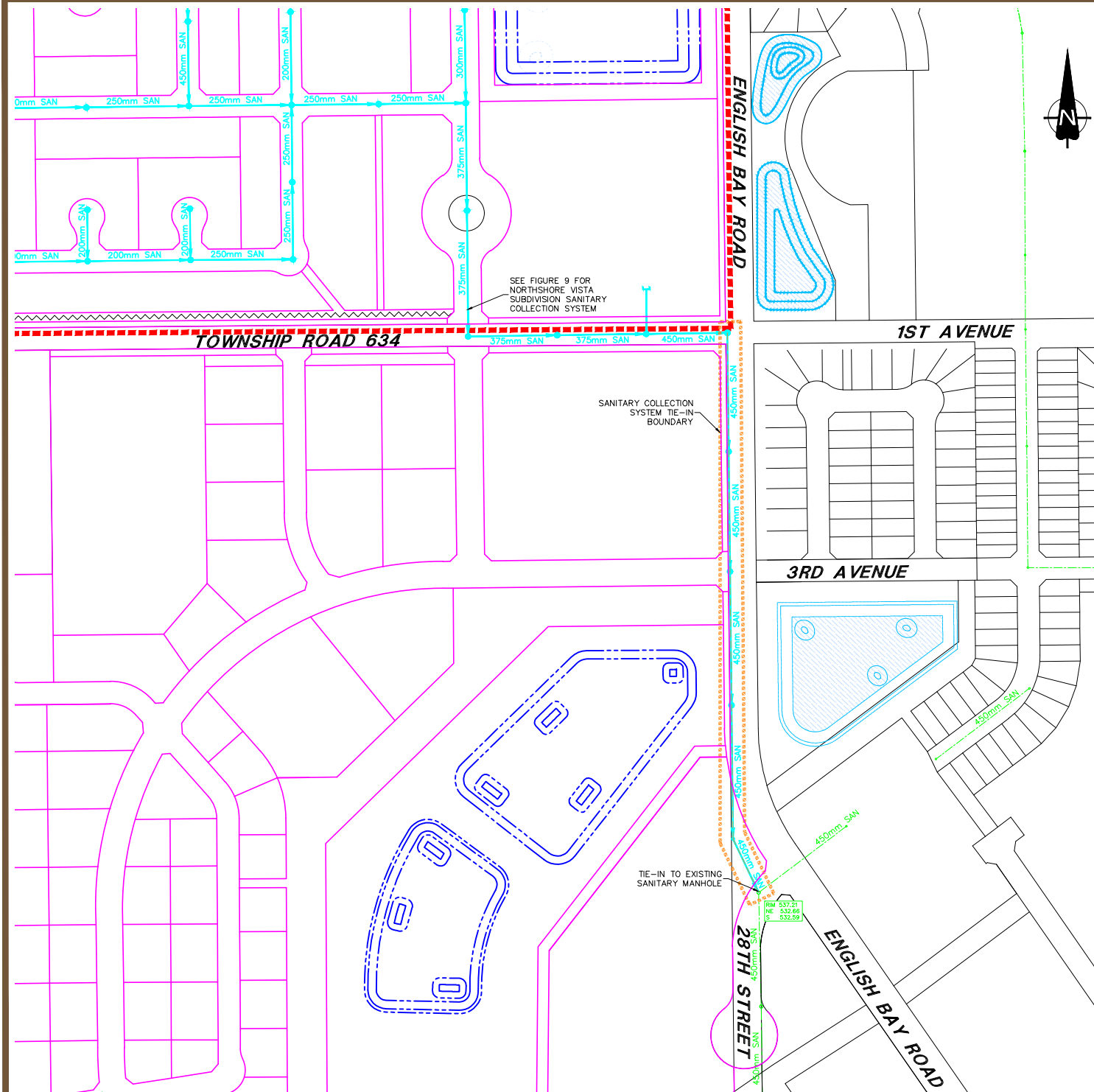


Figure 10
Sanitary Collection
System Tie-In

4.7.4 Stormwater Services

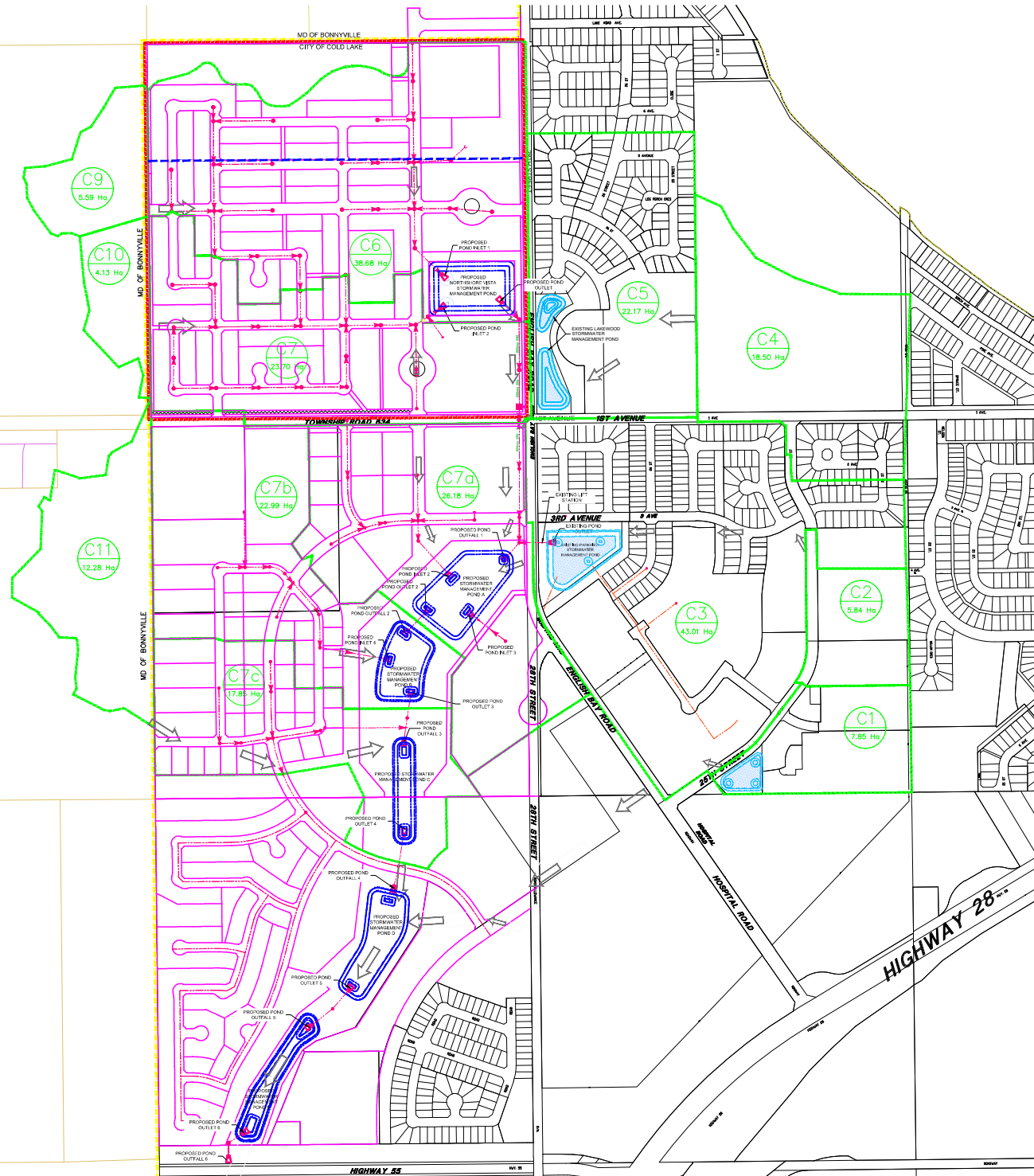
The Stormwater Management Plan for the development shall meet Alberta Environment's stormwater management guidelines for both water quantity and quality. Alberta Environment requires stormwater discharge from new developments to be restricted to pre-development flow rates for the 1:100-year storm. This is usually achieved by designing stormwater management ponds and other similar retention facilities that store runoff from the developed land. The proposed stormwater management system has been designed based on the combined drainage basins within the plan area and additional offsite areas that drain through the subdivision, all of which drain into the Northshore Drainage Parkway, which has been shown in **Figure 11 – Overall Northshore Drainage Parkway**. Offsite areas that drain through Northshore Vista includes existing catchments C9 and C10 on the west side of the subdivision. All other existing catchments in the Northshore Drainage Parkway ultimately drain to the stormwater management ponds in the Northshore Marketplace Development (NE 22 63-2-4).

The Northshore Vista development will require the design and construction of one stormwater management pond (Northshore Vista Pond) along the east side of the property to provide storage for the design storm event. The development area draining to the pond includes the offsite areas (catchments C9 and C10) and the plan area including catchments C6 and C7 for a total catchment area of 72.10ha. The pond was sized to accommodate the development of the entire quarter section and offsite flows as per catchment C6 (65.29Ha) in the City of Cold Lake Stormwater Master Plan Figure 3, so the total design area was 75.01Ha. In the final configuration, the Northshore Vista Pond will outlet through an outlet structure to a storm pipe network that will discharge to the northernmost stormwater management pond in the Northshore Drainage Parkway (Pond A). Pond A has been sized and designed to accommodate the stormwater flow from catchment C7a, the post-development discharge from the existing Parkview Pond and Lakewood Pond and the design flow from the proposed Northshore Vista Pond. The Stormwater Management Plan for the overall Northshore Drainage Plan shall be completed with City consultation prior to the development of either storm management facility and should be subject to any approval conditions by Alberta Environment.

The proposed stormwater services for Northshore Vista are illustrated in **Figure 12 – Stormwater Collection System Final Configuration**. A network of storm pipes designed to convey the 1:5-year stormwater flow to the pond inlet will service the subdivision. It is proposed that the Northshore Vista Pond be designed as a constructed wetland with a pre-development flow rate of 0.150 cms and a storage capacity of 36,000 cubic metres. It will have two 1050 mm inlets and one 600 mm outlet fitted with a control structure to restrict the outflow to the pre-development flow rate. For more details on the stormwater management services, please refer to the report by Northwest Hydraulic Consultants Ltd., entitled Northshore Subdivision Drainage Parkway E ½ of Section 22-63-2-4, Cold Lake – Hydrotechnical Assessment, which is included as Appendix VI of this ASP.

Discharge from the Northshore Vista Pond Outlet to Pond A of the Northshore Drainage Parkway is considered the final stormwater management configuration because it is likely that the Northshore Vista Subdivision will be developed before the Northshore Drainage Parkway is constructed or completed. In the interim, stormwater will exit the Northshore Vista pond through the pond outlet into a 600 mm stormwater pipe running south along the east boundary to a stormwater lift station that will be installed at the southeast corner of the plan, within the Neighbourhood Commercial lot. From here the stormwater will be lifted to the west roadside ditch of English Bay Road. Once in the ditch, the stormwater will proceed south by surface flow along the existing drainage course. The interim outlet configuration is shown in **Figure 12 – Stormwater Collection System Interim Configuration**. The west roadside ditches of English Bay Road and 28th Street have ample capacity to convey the design outflow rate of the pond.

The Northshore Vista Stormwater Management Pond and interim outlet configuration will be constructed and operational prior to the construction of Phase I of the proposed Northshore Vista Subdivision to ensure that the stormwater management plan will be satisfied during all phases of development.



NORTHSHORE VISTA

SE 27-63-2-4

City of Cold Lake

Area Structure Plan

Legend:

- ASP BOUNDARY
- MUNICIPAL BOUNDARY
- OWNERSHIP BOUNDARY
- EXISTING CATCHMENT
- PROPOSED STORM PIPE
- EXISTING STORM PIPE
- - PROPOSED STORM MANHOLE
- ⊕ - EXISTING STORM MAMHOLE
- PROPOSED STORMWATER MANAGEMENT POND
- EXISTING STORMWATER MANAGEMENT POND
- C4 - CATCHMENT LABEL
- ← - STORMWATER FLOW DIRECTION ARROW

Figure 11
Overall Northshore
Drainage Parkway

MD OF BONNYVILLE
CITY OF COLD LAKE

MD OF BONNYVILLE

TOWNSHIP ROAD 634

ENGLISH BAY ROAD

NORTHSHORE VISTA SE 27-63-2-4 City of Cold Lake Area Structure Plan

Legend:

- ASP BOUNDARY
- MUNICIPAL BOUNDARY
- PROPOSED STORM PIPE
- EXISTING STORM PIPE
- PROPOSED STORM MANHOLE
- EXISTING STORM MAMHOLE
- PROPOSED STORMWATER MANAGEMENT POND
- EXISTING STORMWATER MANAGEMENT POND

FINAL STORMWATER OUTLET
CONFIGURATION TIES-IN TO
OVERALL NORTHSHORE
DRAINAGE PARKWAY
(SEE FIGURE 11)

Figure 12
Stormwater Collection
System Final Configuration

SE DESIGN AND CONSULTING INC.

MD OF BONNYVILLE
CITY OF COLD LAKE

NORTHSHORE VISTA SE 27-63-2-4 City of Cold Lake Area Structure Plan

Legend:

- ASP BOUNDARY
- MUNICIPAL BOUNDARY
- PROPOSED STORM PIPE
- EXISTING STORM PIPE
- PROPOSED STORM MANHOLE
- EXISTING STORM MAMHOLE
- PROPOSED STORMWATER MANAGEMENT POND
- EXISTING STORMWATER MANAGEMENT POND
- EXISTING CULVERT

MD OF BONNYVILLE

TOWNSHIP ROAD 634

ENGLISH BAY ROAD

PROPOSED
POND INLET 1

PROPOSED
NORTHSHORE VISTA
STORMWATER
MANAGEMENT POND

PROPOSED POND
INLET 2

PROPOSED
INTERIM LIFT
STATION

UPGRADED
EXISTING
CULVERT

PROPOSED POND
OUTLET

Figure 13
Stormwater Collection
System Interim Configuration

SE DESIGN AND CONSULTING INC.

4.7.5 Franchise Utilities

Natural gas, telephone, cable, and power servicing for the proposed development will be installed within the proposed road rights of way and provided for during the subdivision approval process via subdivision registration and upon entrance into a development agreement with the City of Cold Lake. The proposed shallow utilities will be extended underground from existing utilities adjacent to the ASP and accommodated for during each phase of the development through Utility Right of Way agreements. The design will be done by each franchised utility company in accordance to both the City of Cold Lake and each shallow utility company requirement.

5.0 Plan Implementation

5.1 Planning Approval Process

Following the approval of the Northshore Vista ASP the City will require redistricting, subdivision approval for each phase of development and the proponent to enter into a development agreement to address any off-site and infrastructure improvements.

5.2 Staging

Northshore Vista ASP will be developed in six stages. The sequence of each stage will be subject to phase specific development constraints discussed in section 3.3, along with consideration for market conditions. Any development of the ASP Area will be dependant on initiation of the Phase I. Future staging will continue as outlined below and as illustrated in **Figure 6 – Development Concept**.

- Phase I – will commence with lands designated for Neighbourhood Commercial (NC), and a Public Utility Lot (PUL) for the construction of the Stormwater Mangement pond with perimeter Municipal Reserve (MR). This phase will see the first section of the local collector road, providing access from 1st Avenue (Twp Rd 634) running north-south through the plan area, which includes one of the two landscaped roundabouts. The first part of the multi-modal pathway will be constructed along the south edge, as well as a linear open space between the PUL and NC, providing linkage to the existing open space to the east of the plan area, and connection to the proposed pedestrian and snowmobile trails.
- Phase II – will develop the Municipal Reserve (MR) park space, medium density residential and the first set of residential single family lots. This phase includes the construction of a secondary access into the subdivision through the single family residential area from 1st Avenue. As well as the continued development and extension of the multi-modal pathway from Phase I to the west. As this development phase is restricted by the active gas well site, development timing will be determined by the reclamation process and will only proceed once a reclamation certificate has been issued.

- Phase III – is independent of development constraints, though reliant on the mitigation of those pertaining to Phase II. The lands will be redistricted to multi-family and medium density residential abutting the MR park space. A local collector road, providing a third access is proposed in this phase from English Bay Road, it will also see the construction of the second landscaped roundabout.
- Phase IV – has minimal impact of the active gas well radius, though will remain dependant on market conditions, as primarily these lands are designated for single family residential lots and provide the remaining medium density designated lands abutting the MR park space. The local collector road that was partly developed in Phase III, will be completed in this phase. The road will extend to the west boundary with the intention to provide connectivity for future development. Three linear open spaces with the multi-modal pathway at mid-block locations in the single family residential design will be constructed.
- Phase V – this phase will introduce a large parcel of land for a multi-family development surrounded by MR park space and provide a small portion of land for medium density along with single family residential to complete the low-density design in Phase VI. The multi-modal pathway will abut the multi-family site in the park space. The local collector road off 1st Avenue, started in phase I and III, will be completed through phase V. The road was designed with intentions for connectivity to future development to the north and provide an additional access point off English Bay Road.
- Phase VI – completes the single family residential development in the Plan area and offers a significant amount of park space for final dedication of MR. The park space will provide continuation of the multi-modal pathway and will connect to linear park spaces to close the circular connection around the plan area, while providing future trail connection possibilities to the north and to open spaces to the east. Majority of this MR will be green space preservation of the natural area for deciduous and mixedwood forest and be inclusive of the landfill offset radius. This final stage is illustrated conceptually and will not be able to proceed until written consent is provided from the Deputy Minister of Environment and Parks, and a variance for the landfill radius is granted by the City of Cold Lake.

Appendix I

**AMEC Earth and Environmental, division of AMEC Americas Limited. Geotechnical Investigation
Proposed Cold Lake Residential Subdivision Portions of SE 27-63-2-W4M & NE 22-63-2-W4M, April 2008.**

PLEASE SEE SEPARATE REPORT

Appendix II

Alberta Energy Regulator Land Development Information, December 11, 2015.

AER

Land Development Information Package

For

SE-27-063-02W4 & NE-22-063-02W4 & NE-11-063-02W4

For mapping purposes only; not to be used for digging or excavation purposes.

Please contact Licensee directly for questions or clarifications about the infrastructure or corresponding information. If you don't know the Licensee's contact information or are dissatisfied with the Licensee's response, please contact the AER Customer Contact Centre at 1-855-297-8311.

AER LDIP - Pipelines Lookup Report

Note: Licence No. labels are in Black

Licence No.	Line No.	From Location	To Location	Status	Substance	Licensee
1532	177	13-11-63-2-4	4-14-63-2-4	Abandoned	Natural Gas	AltaGas Ltd.
1532	178	4-14-63-2-4	9-16-63-2-4	Abandoned	Natural Gas	AltaGas Ltd.
1532	180	9-16-63-2-4	11-18-63-2-4	Operating	Natural Gas	AltaGas Ltd.
4575	1	14-35-62-2-4	13-13-63-2-4	Abandoned	Natural Gas	ATCO Gas and Pipelines Ltd. (SOUTH)
4575	3	4-24-63-2-4	4-24-63-2-4	Abandoned	Natural Gas	ATCO Gas and Pipelines Ltd. (SOUTH)
4575	6	13-13-63-2-4	3-24-63-2-4	Operating	Natural Gas	ATCO Gas and Pipelines Ltd. (SOUTH)
4575	9	3-24-63-2-4	4-24-63-2-4	Removed	Natural Gas	ATCO Gas and Pipelines Ltd. (SOUTH)
4575	12	14-35-62-2-4	13-13-63-2-4	Operating	Natural Gas	ATCO Gas and Pipelines Ltd. (SOUTH)
4575	13	8-11-63-2-4	8-11-63-2-4	Operating	Natural Gas	ATCO Gas and Pipelines Ltd. (SOUTH)
4575	14	4-24-63-2-4	4-24-63-2-4	Removed	Natural Gas	ATCO Gas and Pipelines Ltd. (SOUTH)
4575	15	4-24-63-2-4	12-24-63-2-4	Abandoned	Natural Gas	ATCO Gas and Pipelines Ltd. (SOUTH)
4575	16	4-24-63-2-4	4-24-63-2-4	Abandoned	Natural Gas	ATCO Gas and Pipelines Ltd. (SOUTH)
4575	17	4-24-63-2-4	4-24-63-2-4	Removed	Natural Gas	ATCO Gas and Pipelines Ltd. (SOUTH)
4575	18	4-24-63-2-4	4-24-63-2-4	Abandoned	Natural Gas	ATCO Gas and Pipelines Ltd. (SOUTH)
4575	19	4-24-63-2-4	13-13-63-2-4	Removed	Natural Gas	ATCO Gas and Pipelines Ltd. (SOUTH)
4575	20	13-13-63-2-4	13-13-63-2-4	Abandoned	Natural Gas	ATCO Gas and Pipelines Ltd. (SOUTH)
4575	21	13-13-63-2-4	13-13-63-2-4	Removed	Natural Gas	ATCO Gas and Pipelines Ltd. (SOUTH)
42294	1	1-27-63-2-4	9-16-63-2-4	Operating	Natural Gas	Husky Oil Operations Limited

AER LDIP - Wells Lookup Report

Notes: Licence No. labels are in Green.

Sour H2S Wells			
Licence No.	Status	Surface Location	Licensee
		N/A for this AOI	
Sweet H2S Wells			
Licence No.	Status	Surface Location	Licensee
0161461	Gas	13-11-063-02W4	Canadian Oil & Gas International Inc.
0170798	Gas	01-27-063-02W4	Husky Oil Operations Limited
0273720	Abandoned	02-10-063-02W4	Crescent Point Energy Corp.
0423559	Suspended	16-21-063-02W4	Canadian Natural Resources Limited
0434258	Crude Bitumen	10-21-063-02W4	Canadian Natural Resources Limited
0449646	Crude Bitumen	10-21-063-02W4	Canadian Natural Resources Limited
0449647	Crude Bitumen	10-21-063-02W4	Canadian Natural Resources Limited
0449648	Crude Bitumen	10-21-063-02W4	Canadian Natural Resources Limited
0449649	Crude Bitumen	10-21-063-02W4	Canadian Natural Resources Limited
0449694	Drilled and Cased	10-21-063-02W4	Canadian Natural Resources Limited
Unknown H2S /Historial Wells			
Licence No.	Status	Surface Location	Licensee
0007467	Abandoned	09-11-063-02W4	Tri-Tor Oils Ltd. (no Personal Liability)
0027778	Abandoned	12-27-063-02W4	177293 Canada Ltd.
0108873	Abandoned	03-21-063-02W4	Sinopec Daylight Energy Ltd.
0129770	Abandoned	01-28-063-02W4	High Level Energy Ltd.
0135456	Abandoned	10-21-063-02W4	ARC Resources Ltd.
0140193	Abandoned	01-28-063-02W4	Husky Oil Operations Limited
0161514	Abandoned	10-14-063-02W4	Paramount Resources Ltd.
0167082	Abandoned Gas	04-14-063-02W4	Canadian Oil & Gas International Inc.
0196984	Abandoned Crude Bitumen	10-21-063-02W4	Canadian Natural Resources Limited
0197389	Abandoned Crude Bitumen	01-21-063-02W4	Canadian Natural Resources Limited
0197555	Abandoned Crude Bitumen	11-22-063-02W4	Canadian Natural Resources Limited
0197556	Abandoned Crude Bitumen	04-27-063-02W4	Canadian Natural Resources Limited
0197818	Abandoned Crude Bitumen	03-21-063-02W4	Canadian Natural Resources Limited
0200496	Abandoned Crude Bitumen	01-28-063-02W4	Canadian Natural Resources Limited
0243257	Abandoned	11-15-063-02W4	Canadian Oil & Gas International Inc.

AER LDIP - Facility List Lookup Report
Notes: Reporting Facility ID labels are in Blue.

Reporting Facility ID	Licence Type	Licence No.	Status	Sub-type	LE	LSD	Sec	Twp	Rge	Mer	Operator
ABBT0049198			Suspended	Gas Test Battery		4	14	63	2	4	World Wide Energy Co.ltd.
ABBT0055350	W	0200496	Suspended	Crude Bitumen Single-Well Battery		1	28	63	2	4	Canadian Natural Resources Limited
ABBT0055351			Suspended	Crude Bitumen Single-Well Battery		1	21	63	2	4	Canadian Natural Resources Limited
ABBT0067429			Active	Gas Multiwell Group Battery	00	13	11	63	2	4	Canadian Oil & Gas International Inc.
ABBT0080898	W	0170798	Active	Gas Single-Well Battery		1	27	63	2	4	Husky Oil Operations Limited
ABBT0125442	F	45309	Active	Crude Bitumen Multiwell Group Ba	02	10	21	63	2	4	Canadian Natural Resources Limited
ABBT0125443	F	43522	Active	Crude Bitumen Multiwell Group Ba	00	10	21	63	2	4	Canadian Natural Resources Limited

AER LDIP - Incidents and Complaints Lookup Report <i>Note: Incident No. labels are in Brown</i> <i>The Licensee name is at the time of Incident submitted.</i>									
Complaints									
Incident No.	Licence No.	Licence Type	Qtr	LSD	Sec	Twp	Rge	Mer	Licensee
19940992				13	11	63	2	4	Triton Petro Ltd
19951499				12	23	63	2	4	Koch Exploration Canada, Ltd.
20091902	1532	P		12	15	63	2	4	AltaGas Ltd.
Release - Other Substance									
Incident No.	Licence No.	Licence Type	Qtr	LSD	Sec	Twp	Rge	Mer	Licensee
20011608				4	14	63	2	4	Altagas Services Inc.
20030732	0197556	W		4	27	63	2	4	Canadian Natural Resources Limited
Release - Fresh Water									
Incident No.	Licence No.	Licence Type	Qtr	LSD	Sec	Twp	Rge	Mer	Licensee
				N/A for this AOI					

AER LDIP - Coal Mine Permits Lookup Report

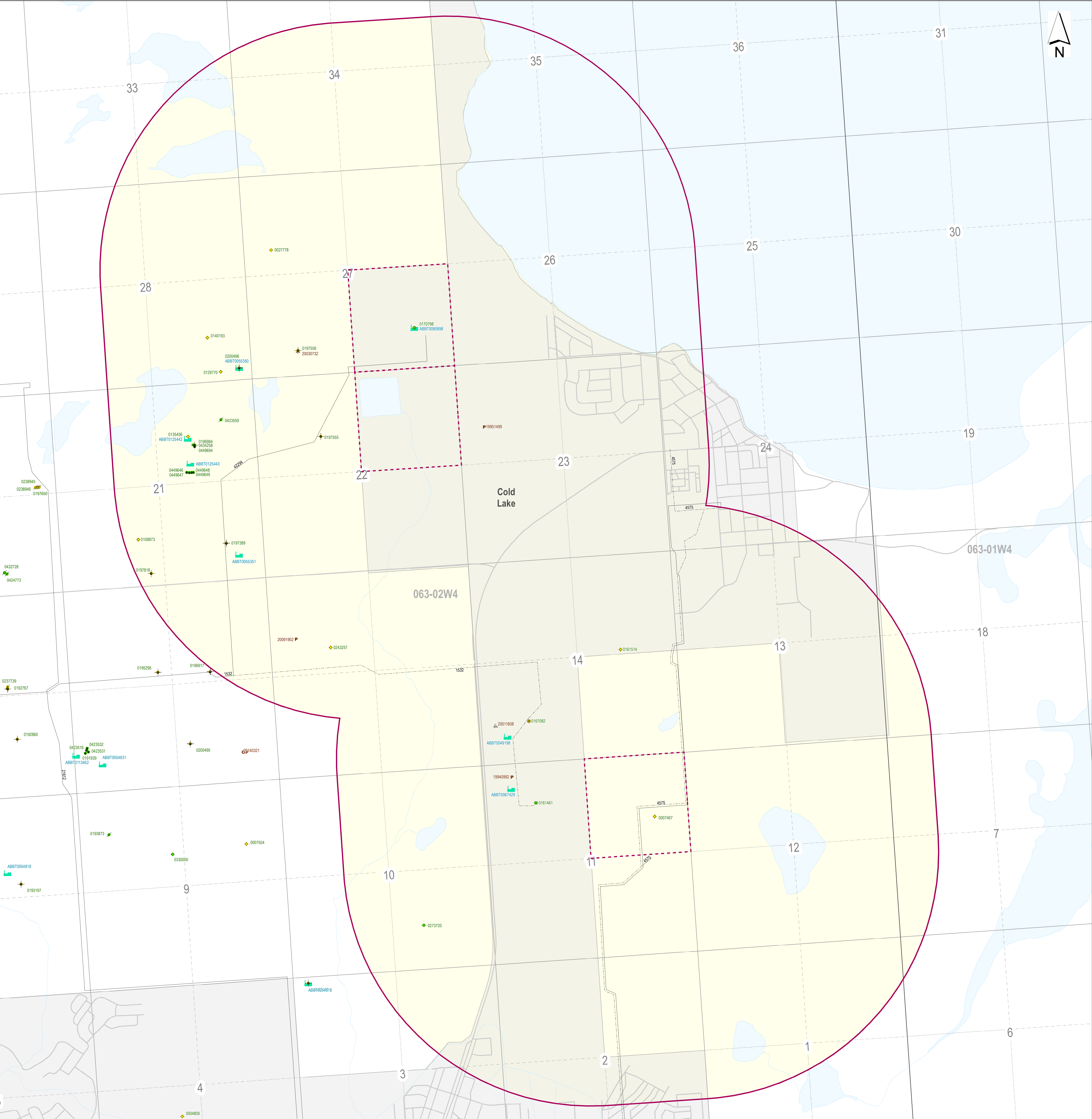
Note: Coal Mine No. labels are in Pink

Coal Mine No.	Permit No.	Status	Owner
		N/A for this AOI	

AER LDIP - Coal Mines Lookup Report

Note: Coal Mine No. labels are in Violet

Coal Mine No.	Status	Owner
		N/A for this AOI



Legend
Pipelines
Status

- Discontinued, Abandoned or Partially Removed
- Licenced
- Permitted
- HVP Products

Pipelines with Known H2S Values

- >= 10 mol/kmol
 - Oil-Well Effluent
 - Sour Natural Gas

Well Licences - SHL Status

- Abandoned
- Abandoned Crude Bitumen
- Abandoned Gas
- Abandoned Oil
- Crude Bitumen
- Disposal
- Drilled and Cased
- Gas
- Injection
- Observation
- Oil
- Surface Casing Only
- Suspended
- Suspended Crude Bitumen
- Suspended Gas
- Suspended Oil
- Undefined
- Sweet by H2S/EDCT
- Sour by H2S/EDCT
- Unknown H2S/EDCT

Complaint Incidents
Concern Reported

- Physical Impact
- Operational Impact
- Odours
- Health
- Miscellaneous

Release Incidents
Substance Phase

- Gas
- Liquid
- Solid
- Unclassified
- Fresh Water

Facility Type

- Other Facility
- Gas Plant
- Battery

Coal Mine Type

- Surface
- Underground
- Coal Mine Permits
- Paved Roads
- Provincial Boundaries
- Town or City (Polygons)
- Area of Interest (AOI)
- AOI buffer- 2 km radius

Land Development Information Package

Area of Interest: SE-27-063-02W4 & NE-22-063-02W4 & NE-11-063-02W4

Data Date: November 12, 2015**Publication Date:** November 12, 2015

Scale: 1:11,250**Projection and Datum:** 10TM AEP Forest, NAD83

Base Data Provided by Spatial Data Warehouse Ltd.

Caution: Specific pipeline locations should be obtained from survey plans, owners and field observation before digging. Low pressure gas distribution lines are not shown. Contact gas distributor for line location. Call before you dig - Alberta One-Call, Toll-Free 1-800-242-3447

The AER does not warrant the accuracy or completeness of the information contained in this map and is not responsible for any errors or omissions in its content and accepts no liability for the use of this information.

Appendix III

Green Plan Ltd.

Limited Environmental Overview and Wetland Assessment and Impact Report (WAIR)

SE 27-63-3-W4M, Cold Lake, Alberta.

May 2016 – REVISED JANUARY 2017.

PLEASE SEE SEPARATE REPORT

Appendix IV

Alberta Culture and Tourism, Historical Resources Act (HRA) Clearance letter. March 10, 2016.

Historic Resources Application

Activity Administration

Date Received: March 10, 2016

HRA Number: 4835-16-0023-001

Project Category: Subdivisions (4835)

Application Purpose: ☒ Requesting HRA Approval / Requirements

Lands Affected ☒ All New Lands

Project Type: ☒ Residential Subdivision GIS Shapefiles are attached no
☒ Area Structure Plan / (yes/no)
Outline Plan Approximate Project Area (ha) 64

Project Name: Northshore Vista ASP (City of Cold Lake)

Additional Name(s):

Key Contact: Ms. Karolina Drabik
Address: 5 Abbotsford Place
Postal Code: T8N 5P3
E-mail: kdrabik@me.com
Affiliation: SE Design & Consulting Inc.
City / Province: St. Albert, AB
Phone: (780) 217-8287
Fax: 0 -
Your File Number:

Proponent: Ashley Properties Development Inc.
Address: 7107-8 Street NW
Postal Code: T6P 1T9
E-mail: s.engman@sedesign.ca
Contact Name: Derek Prue
City / Province: Edmonton, AB
Phone: (780) 905-0447
Fax: 0 -

Proposed Development Area					Land Ownership			
MER	RGE	TWP	SEC	LSD List	FRH	SA	CU	CT
4	2	63	27	1,2,7,8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Historical Resources Impact Assessment:

For archaeological resources:

Has a HRIA been conducted? ☐ Yes ☒ No

Permit Number (if applicable):

For palaeontological resource:

Has a HRIA been conducted? ☐ Yes ☒ No

Permit Number (if applicable):

Historical Resources Act approval is granted subject to Section 31, "a person who discovers an historic resource in the course of making an excavation for a purpose other than for the purpose of seeking historic resources shall forthwith notify the Minister of the discovery." The chance discovery of historical resources is to be reported to the contacts identified within the Listing of Historic Resources.



March 18, 2016

Date

Appendix V

SE Design and Consulting Inc., Traffic Impact Assessment, Northshore Marketplace and Northshore Vista Developments, December 2018.

PLEASE SEE SEPARATE REPORT

Appendix VI

**Appendix VI – Northwest Hydraulic Consultants Ltd., Northshore Subdivision Drainage Parkway E ½
of Section 22-63-2-4, Cold Lake, Hydrotechnical Assessment, August 12, 2019.**

PLEASE SEE SEPARATE REPORT

Appendix VII

Appendix VII – AMEC Earth and Environmental, Phase 1 Environmental Site Assessment

Portion of SE 27-63-2-W4M & Portion of NE 22-63-2-W4M, June, 2007.

PLEASE SEE SEPARATE REPORT