



PUBLIC HEARING DRAFT | DECEMBER 2020

# MASTER SITE DEVELOPMENT PLAN

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A policy to guide the implementation of  
a Natural Resource Extraction / Processing Facility

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# Section A: Project Overview

## 1.0 The Scott Property Aggregate Proposal

Lehigh Hanson Materials Limited (Lehigh) is proposing to construct and operate a Class I Aggregate Operation within the Scott Property, a  $\pm 243$  ha ( $\pm 600$  ac) portion of Section 5-26-2-W5M, herein referred to as “The Scott Pit” or “The Project”.

The Project is located within the Bearspaw Community of Rocky View County (RVC), immediately northwest of the City of Calgary. Lehigh has prepared this Master Site Development Plan (MSDP) and a concurrent Land Use Amendment application to support the planning approvals necessary for the development of the Scott Pit within a portion of the Scott Property.

On-site operations will occupy approximately  $\pm 160$  ha ( $\pm 395$  ac) of the project and include stripping of topsoil & overburden, mining of the underlying aggregates, limited primary processing of oversized material, transport of aggregate materials off-site via a  $\pm 4.5$  km overland conveyor system, and eventual reclamation of the lands or of all the land. The aggregates excavated from the Scott Pit will be conveyed to Lehigh’s Spy Hill facility in the City of Calgary for final processing and sale to end users.

The proposed mining operations will occur over an estimated 25 to 30 years in accordance with six (6) phases to be implemented in a series of staged development permit applications. Site preparation is anticipated to commence in 2022 with aggregate extraction beginning in 2024. Lehigh is committed to limiting the area of open excavation at any given time to a maximum of 24 ha (60 ac). As mining progresses throughout the site, previously depleted areas will be backfilled with overburden excavated from subsequent operational phases in order to progressively reclaim the project area. The land will be returned to an agricultural use, or to another community supportive use that may be identified through subsequent public and stakeholder engagement processes.

Operations within the Scott Pit will be regulated by Federal Acts, Provincial regulations through Alberta Environment & Parks’ (AEP) *Code of Practice for Pits* and the *Water Act*, RVC via the MSDP, land use amendment and development permit process, and the City of Calgary via a development permit process for the proposed overland conveyor system.

Lehigh is committed to working with both RVC and the City of Calgary to mitigate potential development impacts at Lehigh’s Spy Hill facility resulting from the processing and sale of aggregate materials being supplied from the Scott Pit.



## 2.0 Purpose of the Master Site Development Plan

This MSDP describes how the proposed aggregate operation will be implemented within the Scott Pit in accordance with principles and objectives of the County Plan which establishes a goal to support the extraction of natural resources within the municipality in a manner that balances the needs of residents, industry, and society.<sup>1</sup> This MSDP establishes a policy framework to provide guidance to implement a concurrent land use redesignation and various subsequent development permit application processes for the Scott Pit.

The Scott Pit MSDP has been prepared as a non-statutory policy document to establish expectations relative to the following:

- An introduction to the project highlighting Lehigh's motivations and rationale for the proposal, a description of the Project within the context of the local/regional area surrounding the project location;
- A summary of various technical investigations which assess current conditions within the subject lands and compare them to the future conditions anticipated during operation of the proposed Scott Pit;
- A site development strategy illustrating how the Scott Pit is expected to progress over the next 25 – 30 years through six (6) mining stages to be guided by a corresponding series of development permits;
- An operations strategy to describe how the Scott Pit will be managed including anticipated hours of operation, number of employees, type of equipment expected within the site, etc.;
- A summary of key performance standards and mitigation strategies to demonstrate how Lehigh will ensure potential impacts to wildlife habitat, groundwater, surface drainage, air quality, noise and visual impacts within and surrounding the Scott Pit will be appropriately mitigated during operations;
- An assessment of cumulative environmental, financial and social impacts anticipated as a result of the proposed Scott Pit;
- Acknowledgment of the multi-jurisdictional nature of this proposed development including a description of a potential approval process based on collaboration between RVC, the City of Calgary and the Province of Alberta;
- A summary of potential reclamation end land uses for the Scott Pit upon completion of mining activities which are intended to add value to the neighbourhood, the Bearspaw community and potentially, the entire Metropolitan Region;
- A description of the community consultation process Lehigh completed to ensure local and regional stakeholders were kept informed of the project and given opportunities to provide input to the MSDP's formative context;
- A summary of Lehigh's commitments to operate the Scott Pit that responds to concerns expressed by stakeholders, and to ensure the aggregate operation is conducted in a safe, responsible and respectful manner given its proximity to the Bearspaw community; and
- A summary evaluation of the proposed Scott Pit within the context of current adopted municipal and regional planning policies.

<sup>1</sup> County Plan, Section 15 Natural Resources, Pg. 66

### 3.0 Lehigh's Motivation & Rationale

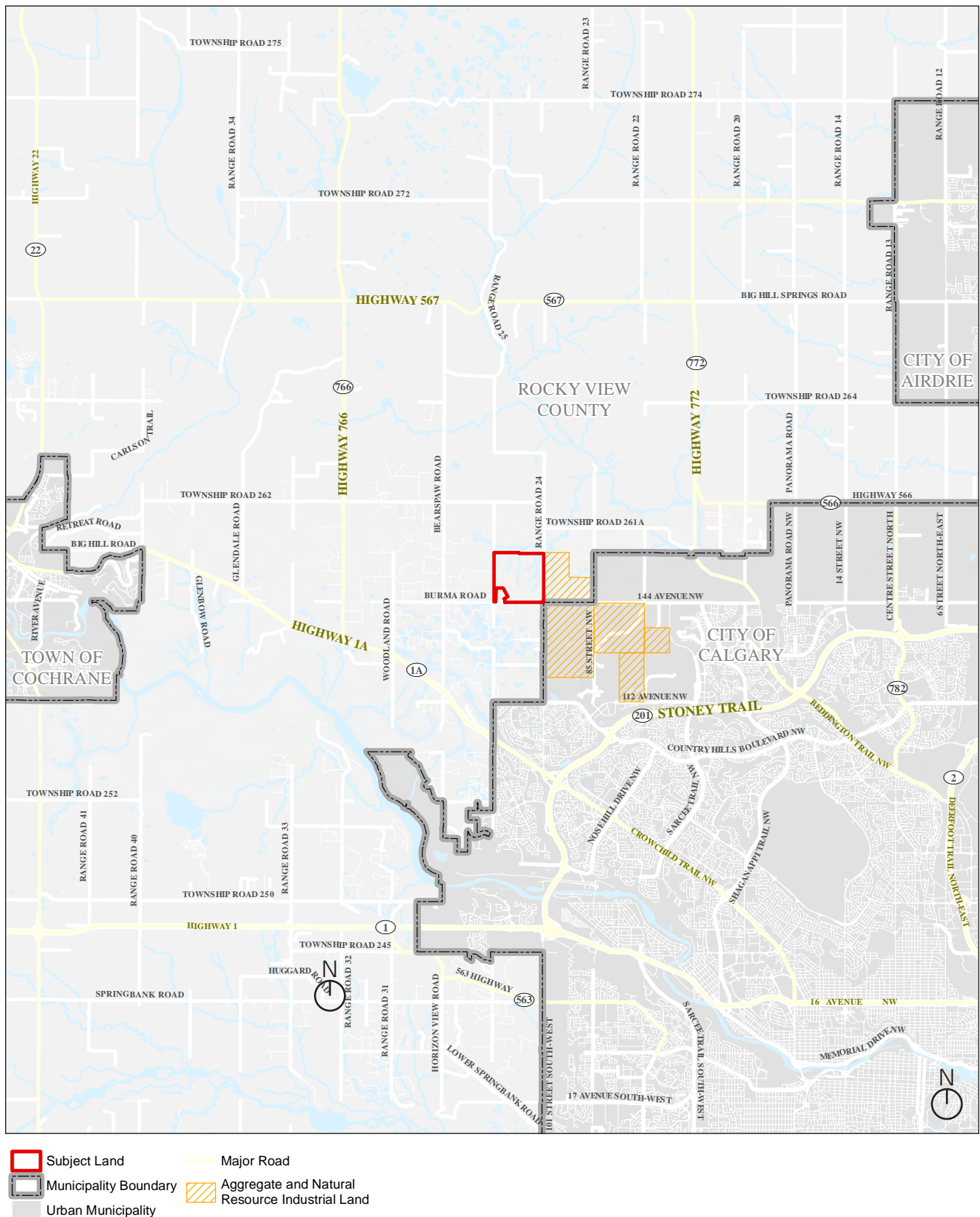
Aggregates are non-renewable resources that are found in certain locations where previous natural geologic and geographic processes have placed them. They are essential to support the development of community roads, buildings, municipal infrastructure, and more. The Metropolitan Region has traditionally enjoyed a reasonably local supply of aggregate reserves. However, these reserves are depleting due to rapid growth, urbanization, and simultaneous sterilization of gravel deposits.

The Calgary Metropolitan Region lacks a comprehensive plan intended to identify and secure a stable, long-term supply of aggregate. As illustrated in **Figure 1: Regional Context**, the Scott Property is located near municipalities and projects with high aggregate demand and has close access to Stoney Trail and the Highway 2 corridor. The site is also adjacent to existing active gravel operations that are in various phases of their remaining supply.

This MSDP describes a revised, innovative development proposal supported by an enhanced level of operational commitments from Lehigh specifically designed to mitigate local concerns. With this application, Lehigh is proposing to construct an overland conveyor system to link the proposed Scott Pit to the existing Spy Hill aggregate processing facility within the City of Calgary and thereby eliminate the need for haul truck traffic to and from the project. Traffic is a common concern among residents near aggregate operations, and the proposed conveyor system will create operational conditions that will not have a negative impact on traffic and associated road safety. Likewise, operation of the conveyor will reduce associated noise, dust and emissions nuisances to the surrounding country residential area. On site operations will include mining and limited 'pre-processing' of aggregate materials; however, these materials will be conveyed to the existing Spy Hill operation for subsequent processing and sale to end users. As such, operations within the Scott Property will serve an important role in securing a steady, convenient and cost-effective supply of aggregate for infrastructure projects throughout the Region without causing negative cumulative effects to nearby residents.

Lehigh is committed to ensuring operations within the Scott Property appropriately mitigate the potential for negative impacts to adjacent lands. Lehigh acknowledges that proposals for aggregate operations often create concerns from neighbours regarding noise, dust, traffic, groundwater, and visual impacts. A comprehensive stakeholder engagement program, summarized in Section D of this MSDP, was implemented prior to the preparation of this MSDP. Lehigh is committed to working collaboratively with Bearspaw residents, RVC, and other regional stakeholders to ensure the proposed aggregate operations at the Scott Property appropriately address potential impacts.

**FIGURE 1 | REGIONAL CONTEXT**



## 4.0 Lehigh's Operations within the Northwest Metropolitan Area

For more than a century, Lehigh has supplied cement, aggregates, ready-mixed concrete, asphalt and other building materials to markets throughout North America and around the world. The corporation embodies a down-to-earth approach that includes maintaining a closeness to the business, consistent leadership, strict cost management, margin control and speed, and the ability to act decisively. Lehigh is committed to operating in a safe and environmentally responsible manner and actively explores the use of resilient construction materials and sustainable construction practices.

Strongly advocating for science-based research to drive innovation and deliver long-term results, Lehigh is busy working on the next generation of building materials that will have a lower environmental footprint and bring them closer to a net-zero goal. As investment is made in research, the majority goes towards Lehigh's goal of carbon neutral concrete by 2050. Capital investments in more efficient equipment and new technology are critical for Lehigh to stay competitive and reduce its reliance on energy and water.

From 1954 to 2013, Lehigh operated an aggregate facility in Lower Bearspaw, an area which was annexed by the City of Calgary in 2007 to accommodate a residential community now referred to as Rockland Park. Lehigh has also been operating within the City of Calgary's Spy Hill area since the 1982 and has developed a state-of-the-art facility featuring a highly automated, pre-cast concrete pipe plant which supplies products to all of Alberta and throughout Western Canada.

In 2014, Lehigh made significant investment to their Spy Hill operation by installing a new aggregate processing facility with various leading-edge equipment to crush, screen, and wash aggregate materials. These new technologies have eliminated the use of diesel generators, leading to a significant reduction in overall greenhouse gas emissions within the Spy Hill location. Likewise, Lehigh installed a wheel-wash facility to ensure all trucks and equipment leaving the site do not track mud and dust onto the surrounding roadways. Lehigh is proud to be the first aggregate producer in the Metropolitan Area to implement this technology.

To support their 2014 Spy Hill processing facility upgrade, Lehigh has since provided significant contributions to the City to fund surrounding transportation infrastructure including:

- Upgrades to 85th Street NW / Country Hills Boulevard NW and 112th Avenue NW – via the City of Calgary's Community Aggregate Payment Levy;
- Paving, installation of traffic signals and turning lanes for 69th Street NW<sup>2</sup>; and
- Widening of a ±500 m portion of 112th Avenue NW at 76th Street NW, installation of traffic signals and turning lanes – 100% of costs funded by Lehigh.

» This included ±2.27 ac (±0.919 ha) of land transferred to the City for the widening.

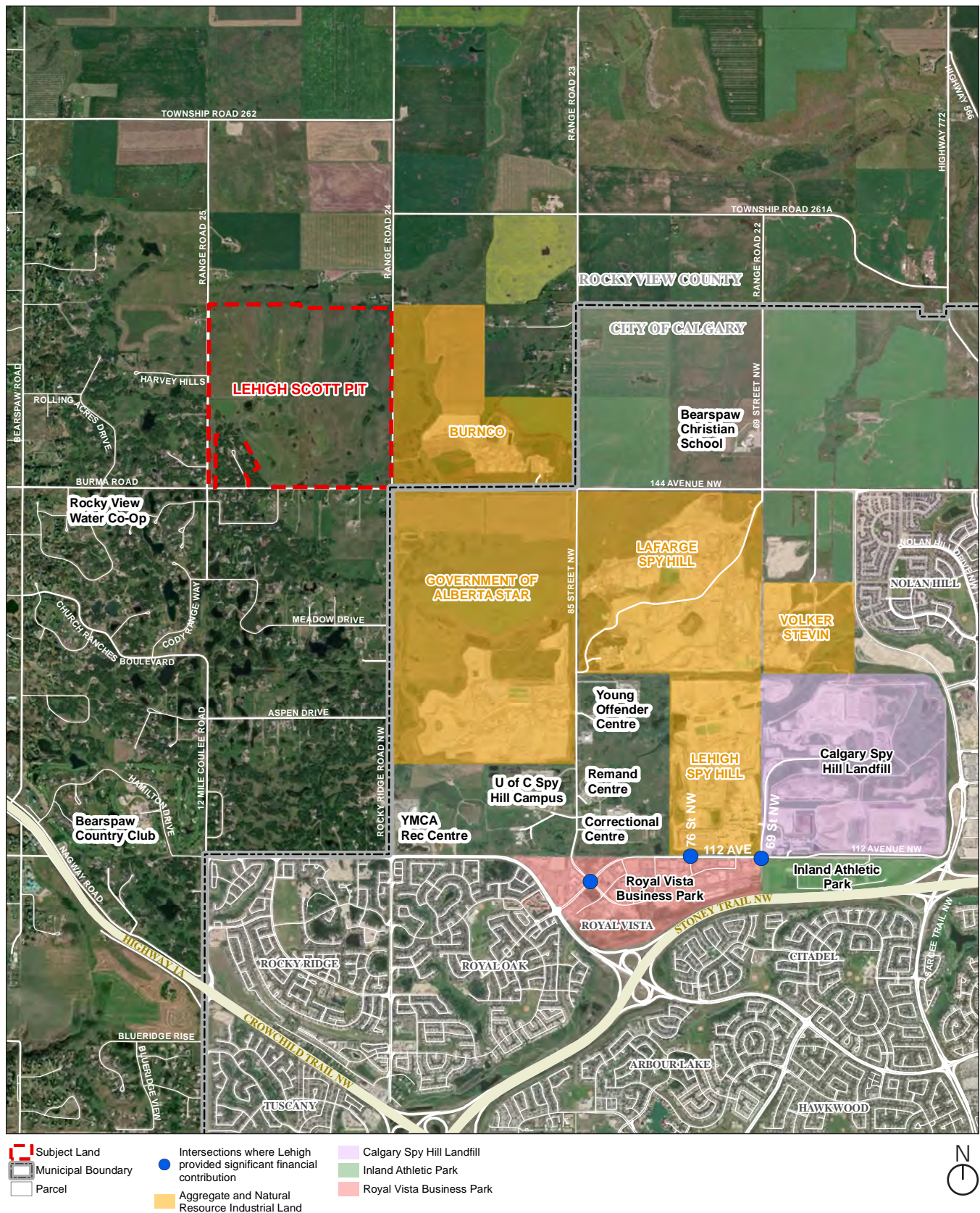
The Inland Athletic Park is located directly southeast of Lehigh's Spy Hill facility. This recreation area was constructed within a depleted aggregate pit mined which was during the 1980s and 1990s. Development of this recreation area was a collaborative project between the City of Calgary, Alberta Transportation and Inland Aggregates (a subsidiary of Lehigh Hanson) with the outcome being an exemplary example of end use planning for an aggregate operation that provides community benefit.

Through the decades, Lehigh has positively contributed to the community it works in through numerous improvements to their operations and the surrounding area. As a result of this ongoing receptiveness and responsiveness to the community over the years, Lehigh is recognized within the Metropolitan Region as a responsible corporate citizen.

<sup>2</sup> Infrastructure upgrade costs shared 50/50 between Lehigh and the City of Calgary



**FIGURE 2 | NORTHWEST METROPOLITAN AREA AGGREGATE & INSTITUTIONAL CONTEXT**



## 5.0 Primary Project Objectives

In support of this application, Lehigh has identified several community benefits and operating commitments that will guide the implementation of the proposed aggregate operation within the Scott Pit over the next 25 to 30 years. Lehigh anticipates that the Scott Pit will positively contribute to the community, RVC, and the entire Metropolitan Region by providing the following:

- **A critical asset that will support projected regional growth within the Metropolitan Area:** According to the Metropolitan Region Board (CMRB), the population of the region is expected to grow to 3 million people by 2076. As such, the current estimated annual demand for aggregate of 15M – 23M tonnes is expected to double to 30M – 46M tonnes over the next 50 years. The Scott Pit has potential to supply high quality aggregates to RVC and the Region to help fulfill this projected demand for aggregates.
- **A stable, convenient and economic supply of aggregate products:** Maintaining a close-to-market supply of aggregate supports cost effective growth within the Metropolitan Region, which in turn reduces public investment (i.e. tax dollars) required to support infrastructure projects, and reduces the potential for gravel shortages which create increased costs for all construction projects.
- **An overall fiscal benefit to Rocky View County:** Over the next 25 to 30 years, the proposed Scott Pit is expected to contribute to the County:
  - » **± \$400M via** combined GDP, job creation, property taxes and other direct and indirect financial benefits;
  - » **± \$20M via** the Community Aggregate Payment Levy (CAP); and
  - » **± \$1.8M** Regional Transportation Off-Site Levy contribution<sup>3</sup>.
- **A ±4.5 km overland conveyor system to transport material from the Scott Pit to Lehigh's Spy Hill facility located in the City of Calgary:** Lehigh is proposing aggregate operations within the Scott Pit to only involve extraction activities (with limited primary processing). As such, extracted aggregates will be transported by an overland conveyor system to facilitate off-site processing and sale of aggregates to end users.
- **A reduction in greenhouse gas (GHG) emissions and public safety concerns associated with aggregate truck traffic:** Implementation of the overland conveyor system will effectively eliminate the need for truck traffic on local municipal roads in support of the proposed Scott Pit. This will create a positive environmental impact from an overall reduction in vehicle emissions required to support the Project and the local roads adjacent to the project will not experience an increase in truck traffic – thereby maintaining public safety and roadway capacities.
- **A commitment to implement industry best practice performance standards and mitigation measures:** Lehigh is committed to actively exploring solutions with surrounding landowners, RVC, other aggregate operators, the Province, and the City of Calgary to reasonably mitigate potential impacts, and will implement industry best practices for the Project as described within this MSDP.
- **A commitment to explore the opportunity for a future regionally significant community amenity as a potential end use for the MSDP area post operations:** Aggregate is a temporary use of land. The end use of land which has been depleted of aggregate resources can create significant community benefits including residential / non-residential uses, parks, trails, future housing, or infrastructure facilities. Lehigh is committed to working with RVC and local/regional stakeholders to determine an end use for the Scott Pit that serves as a community and regional benefit.

<sup>3</sup> As per applicable payment in accordance with amounts described by Bylaw C-8007-2020



# Section B: Plan Area Description

## 6.0 Local & Regional Context

### 6.1 Location & Area Context

As illustrated by **Figure 1: Regional Context** and **Figure 2: Northwest Metropolitan Region Aggregate / Institutional Area**, the MSDP area is located within Rocky View County's Bearspaw community. The subject lands contain  $\pm 243$  ha ( $\pm 600$  ac) bounded by Burma Road to the south, Range Road 24 to the east, and Range Road 25 to the west. Lands directly adjacent to the southwest of the MSDP area include a residential area (referred to as Crestview Estates) situated within the southwest corner of the SW 5-26-2-W5M. The lands to the south, west, and north of the Plan area include a mix of agricultural and residential land uses.

The northwest portion of the Metropolitan Area includes existing aggregate operations and a variety of regionally significant institutional uses which transition to the country residential community of Bearspaw and the City of Calgary's future residential growth corridor, as defined by the 2012 City of Calgary / Rocky View County Intermunicipal Development Plan (IDP).

The Scott Pit MSDP area is located immediately west and northwest of existing active gravel operations summarized as follows:

- Burnco owns and operates an aggregate facility, in RVC, within  $\pm 195$  ha ( $\pm 480$  ac) situated directly east of the proposed Scott Pit;
- The Government of Alberta owns an aggregate facility, in the City of Calgary, referred to as the 'STAR Pit' within  $\pm 389$  ha ( $\pm 960$  ac) located directly southeast of the proposed Scott Pit;
- Lafarge Canada operates an aggregate facility within  $\pm 259$  ha ( $\pm 640$  ac) situated approximately 1.6 km (1 mile) to the east of the proposed Scott Pit;
- Volker Stevin Canada operates an aggregate facility within  $\pm 81$  ha ( $\pm 200$  ac) situated approximately 2.4 km (1.5 mile) to the east of the proposed Scott Pit; and
- Lehigh operates an aggregate facility within  $\pm 146$  ha ( $\pm 360$  ac) situated approximately 3.2 km (2 mile) to the southeast of the proposed Scott Pit.

Most of the aggregate facilities within the City of Calgary are on lands owned by each respective operator and these resources are nearing depletion. However, Lehigh's Spy Hill aggregate processing facility is situated on land owned by the City. Lehigh has negotiated a long-term lease arrangement for this site and secured appropriate land use and development permits to extract the aggregate materials and operate the processing facility.

It is estimated that currently permitted aggregate reserves within the Metropolitan Region will be depleted by 2033 if not replaced by new operations<sup>4</sup>.

<sup>4</sup>Economic Analysis of the Scott Pit, Nichols Applied Management, July 2020, pg. 14

## PLAN AREA DESCRIPTION

The City of Calgary owns and operates the Spy Hill Landfill, a regional waste management facility spanning  $\pm 259$  ha ( $\pm 640$  ac) located directly east of Lehigh's Spy Hill aggregate facility and operated by Calgary Waste & Recycling Services. Under Lehigh's Spy Hill Direct Control bylaw for the lands owned by the City of Calgary, a sanitary landfill is listed as a permitted use and as such, it is anticipated that landfill operations will eventually expand onto the land currently occupied by Lehigh's Spy Hill aggregate facility. However, this is not anticipated to occur until well beyond the proposed 25 to 30-year operating horizon of the Scott Pit.

The Province owns and operates a series of correctional facilities including the Young Offender Centre, Calgary Remand Centre and Calgary Correctional Centre occupying  $\pm 146$  ha ( $\pm 360$  ac) situated approximately 3.2 km (2 mi) to the southeast of the MSDP area.

Spanning  $\pm 200$  ha ( $\pm 500$  ac), the University of Calgary's Agriculture Research Centre referred to as the 'Spy Hill Campus' is located about 3.2 km (2 mi) to the south of the MSDP area. Initially developed in the early 1970s, the campus presently supports the University's Faculty of Veterinary Medicine including a Clinical Skills Building, Veterinary Science Research Station, Resource Library, and a Wildlife Rehabilitation Centre.

## 6.2 Existing Land Use

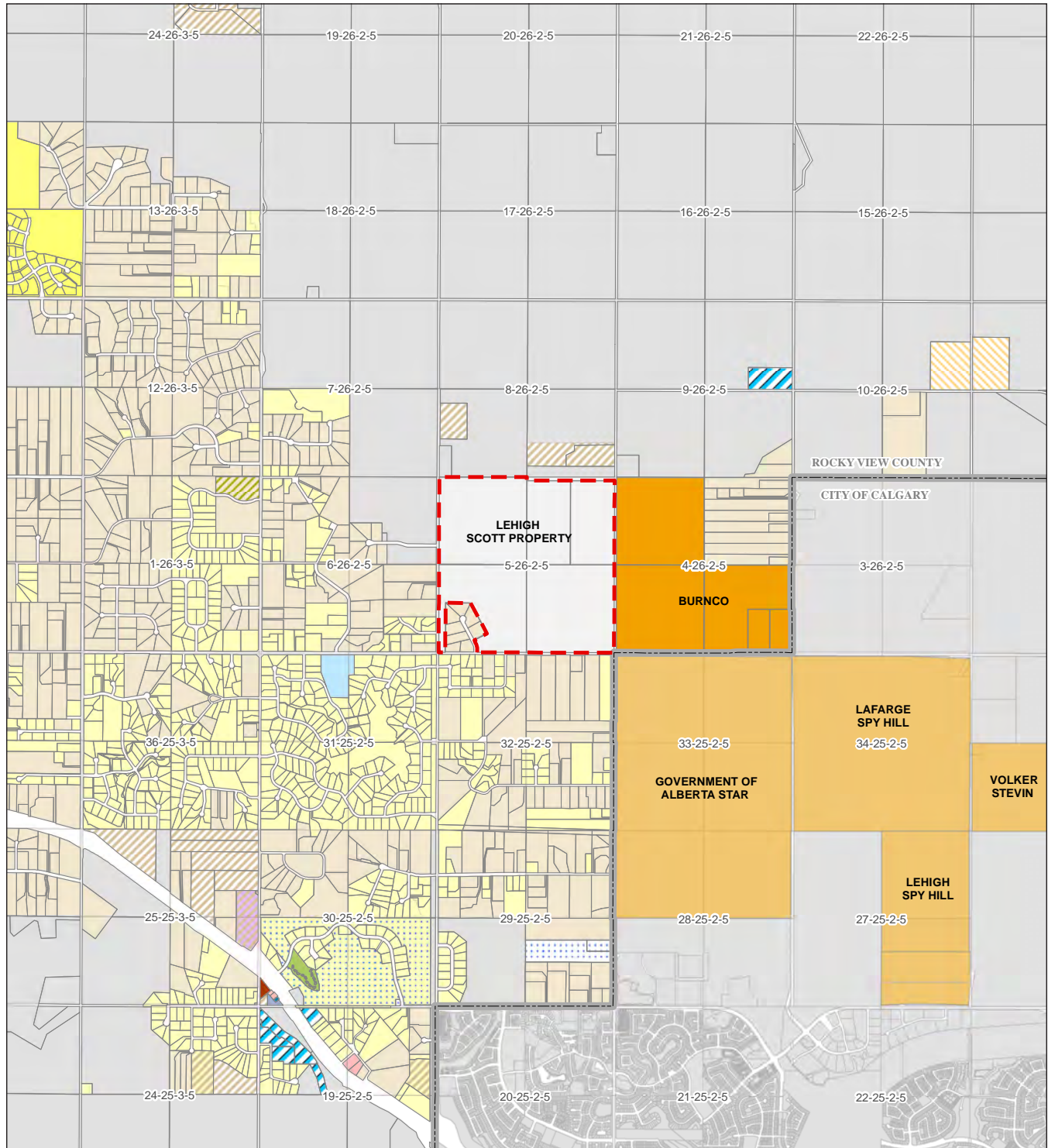
Lands within the Project area are presently designated Agriculture, General District (A-GEN) in accordance with the RVC Land Use Bylaw C-8000-2020.

As illustrated on **Figure 3: Existing Land Use**, land uses to the south and west of the Project area include predominantly residential land uses which have been developing over the past 30+ years with subdivisions ranging from  $\pm 0.81$  ha ( $\pm 2$  ac) to  $\pm 8.1$  ha ( $\pm 20$  ac). Lands to the north of the Project area include predominantly un-subdivided agricultural operations. As discussed in the previous section, an existing aggregate facility located directly to the east of the Project area is designated Direct Control District (DC34) and an existing aggregate operation within the City of Calgary located directly southeast of the Project area is designated Special Development Area – Future Urban Development (S-FUD).





**FIGURE 3 | EXISTING LAND USE**



- |  |   |  |
|--|---|--|
| <p><b>Legend</b></p> <ul style="list-style-type: none"> <li><span style="color: red;">■</span> Subject Land</li> <li><span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> Municipal Boundary</li> <li><span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> Calgary Approved Aggregate Operation</li> <li><span style="background-color: lightgrey; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> Calgary Parcel</li> </ul> | <p><b>Land Use (Rocky View County)</b></p> <ul style="list-style-type: none"> <li><span style="background-color: lightgrey; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> A-GEN - Agricultural, General</li> <li><span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> A-SML p12.1 - Agricultural, Small Parcel</li> <li><span style="background-color: orange; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> A-SML p8.1 - Agricultural, Small Parcel</li> <li><span style="background-color: blue; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> B-REC - Business, Recreation</li> <li><span style="background-color: pink; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> C-HWY - Commercial, Highway</li> <li><span style="background-color: lightblue; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> C-LRD - Commercial, Local Rural</li> <li><span style="background-color: purple; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> C-MIX - Commercial, Mixed Urban</li> <li><span style="background-color: green; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> DC23 - Residential Mixed</li> </ul> | <ul style="list-style-type: none"> <li><span style="background-color: lightblue; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> DC24 - Public Service</li> <li><span style="background-color: purple; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> DC28 - Storage and Sales Industrial</li> <li><span style="background-color: orange; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> DC34 - Natural Resource Industrial</li> <li><span style="background-color: brown; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> DC73 - Point Commercial</li> <li><span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> R-CRD - Residential, Country Residential</li> <li><span style="background-color: lightyellow; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> R-CRD p0.4 - Residential, Country Residential</li> <li><span style="background-color: lightgrey; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> R-RUR - Residential, Rural</li> <li><span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> R-RUR p4.0 - Residential Rural</li> <li><span style="background-color: blue; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> S-PUB - Special, Public Service</li> </ul> |
|--|---|--|



## PLAN AREA DESCRIPTION

### 6.3 Bearspaw Area Structure Plan (BASP)

As illustrated on **Figure 4: Natural Resource Aggregates & Future Land Use Scenario – Bearspaw Area Structure Plan**, the Project is situated within an area known to contain aggregate resources. Adopted in 1994, the BASP establishes key objectives to guide comprehensive growth management while protecting the character of the Bearspaw community. The BASP's Future Land Use Scenario contemplates the future development of country residential within the proposed Scott Pit MSDP area. However, Section 8.3.14 of the BASP states that locations with high potential for natural resource extraction should be protected and the County should promote opportunities for aggregate extraction development where such activities can occur in a manner that:

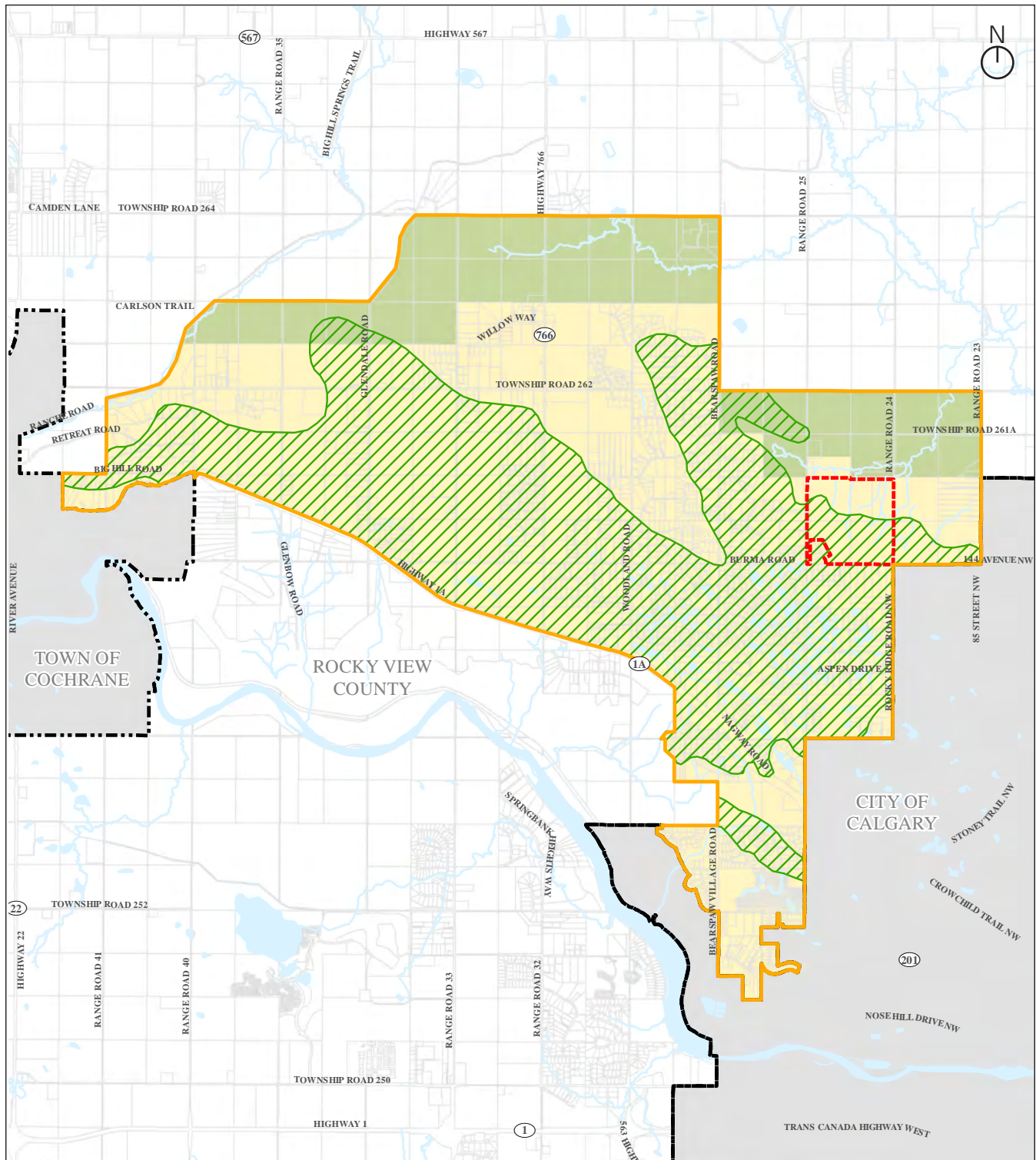
- Limits the potential negative impacts to surrounding land uses;
- Provides an economic benefit to the County;
- Accommodates appropriate access to the operation in a manner that considers the capacity of the municipal road network and public safety;
- Considers a proposed reclamation plan;
- Considers the requirements of referral agencies and AEP; and
- Appropriately manages the safe handling and storage of any hazardous or other waste materials to be generated from the industrial activity.

Lehigh acknowledges and is sensitive to the proximity of the proposed Scott Pit to existing county residential development. As such, Lehigh has proposed industry leading performance standards and mitigation measures as described in the forthcoming sections of this MSDP to ensure that the proposed development does not create a burden to the community relative to the existing industrial and institutional uses already occurring within the NW Metropolitan Area.





**FIGURE 4 | NATURAL RESOURCE AGGREGATES & FUTURE LAND USE SCENARIO - BEARSPAW AREA STRUCTURE PLAN**



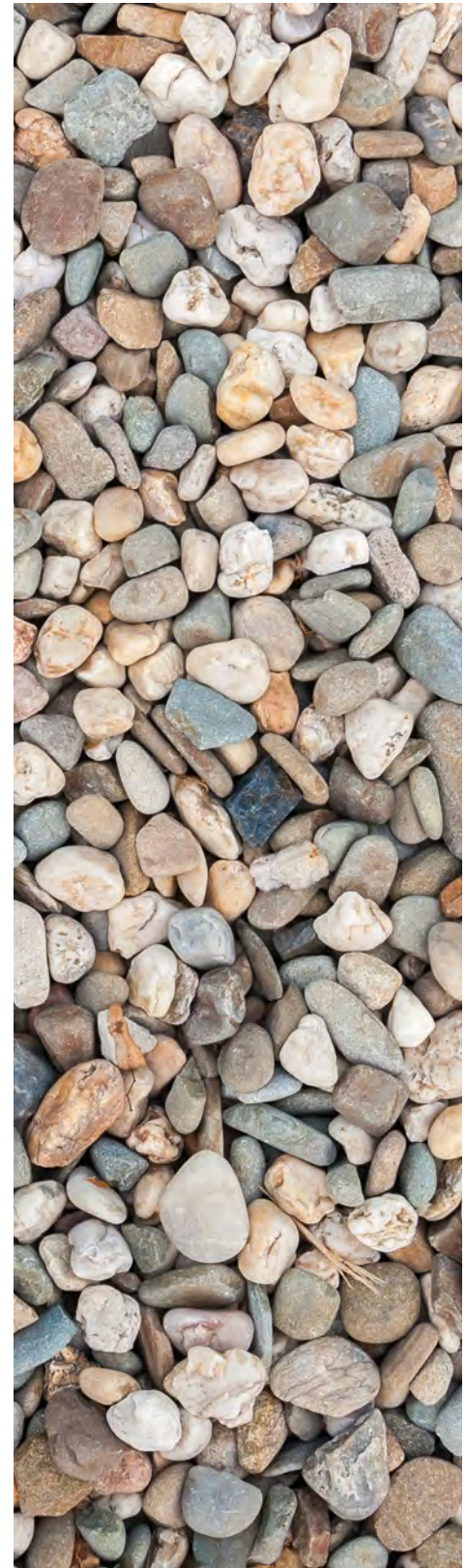
- |                       |  |  |
|-----------------------|--|--|
| Subject Land          | Bearspaw Area Structure Plan                   | <b>Bearspaw ASP Future Land Use Scenario</b> |
| Municipality Boundary | Tertiary Gravel (Bearspaw Area Structure Plan) | Agricultural                                 |
| Urban Municipality    |  | Country Residential                          |

## PLAN AREA DESCRIPTION

#### 6.4 Development History within Section 5-26-2-W5M

The following is a chronological summary of development changes within the Scott Pit MSDP area:

- In the mid-1970s, the NE 5-26-2-W5M was subdivided to create a  $\pm 77.17$  ac parcel, a  $\pm 76.79$  ac remainder and a  $\pm 30$  m public road ROW along the entire northern boundary of this quarter section. The road ROW has never been developed.
- In 1978, seven (7) residential lots were subdivided from the SW 5-26-2-W5M to create the Crestview Estates neighbourhood.
- In 1992, a predecessor company of Lehigh purchased the E  $\frac{1}{2}$  of Section 5-26-2-W5M, including the original Scott family farmstead buildings.
- In 1993, the southernmost residential parcel in the Crestview Estates parcel was subdivided to create one new lot.
- In September 1994, Consolidated Aggregates, a predecessor company of Lehigh, filed an application to redesignate the E  $\frac{1}{2}$  of Section 5-26-2 W5M for aggregate extraction. This application was refused by RVC Council.
- In May 1995, RVC Council approved the aggregate extraction operation on adjacent lands to the east, now operated by BURNCO Rock Products Ltd. The land use redesignation was approved as Direct Control District 34 - Aggregate Extractive Industry.
- In 2008, Lehigh purchased the W  $\frac{1}{2}$  of Section 5-26-2-W5M. Subsequently, Inland Aggregates (a subsidiary of Lehigh) applied to redesignate all owned portions of Section 5. This application went to public hearing on January 26, 2010 and was refused at first reading.





## 7.0 Site Conditions

### 7.1 Legal Descriptions

As illustrated by **Figure 5: Current Site Conditions** and further described by the following table, the Project includes five (5) titled parcels registered under Lehigh Hanson Materials Limited:

**Table 1: Legal Descriptions**

Description	Title No.	Area (±ha)	Area (±ac)
NW 5-26-2-W5M	081 459 852	64.7	160
NE 5-26-2-W5M	921 155 395	31.23	77.17
	921 172 891	31.12	76.79
SW 5-26-2-W5M	081 429 773	51.03	126.09
SE 5-26-2-W5M	921 155 362	64.7	160
<b>TOTAL</b>		<b>242.78</b>	<b>600.05</b>

*\*Areas in table are referenced as per those described in the Certificates of Title. Areas illustrated on Figure 5: Current Site Conditions derived from cadastral spatial data*

### 7.2 Existing Site Development

As illustrated by **Figure 5: Current Site Conditions**, the Scott Property and surrounding area includes the following road allowances, and rights-of-way (ROW):

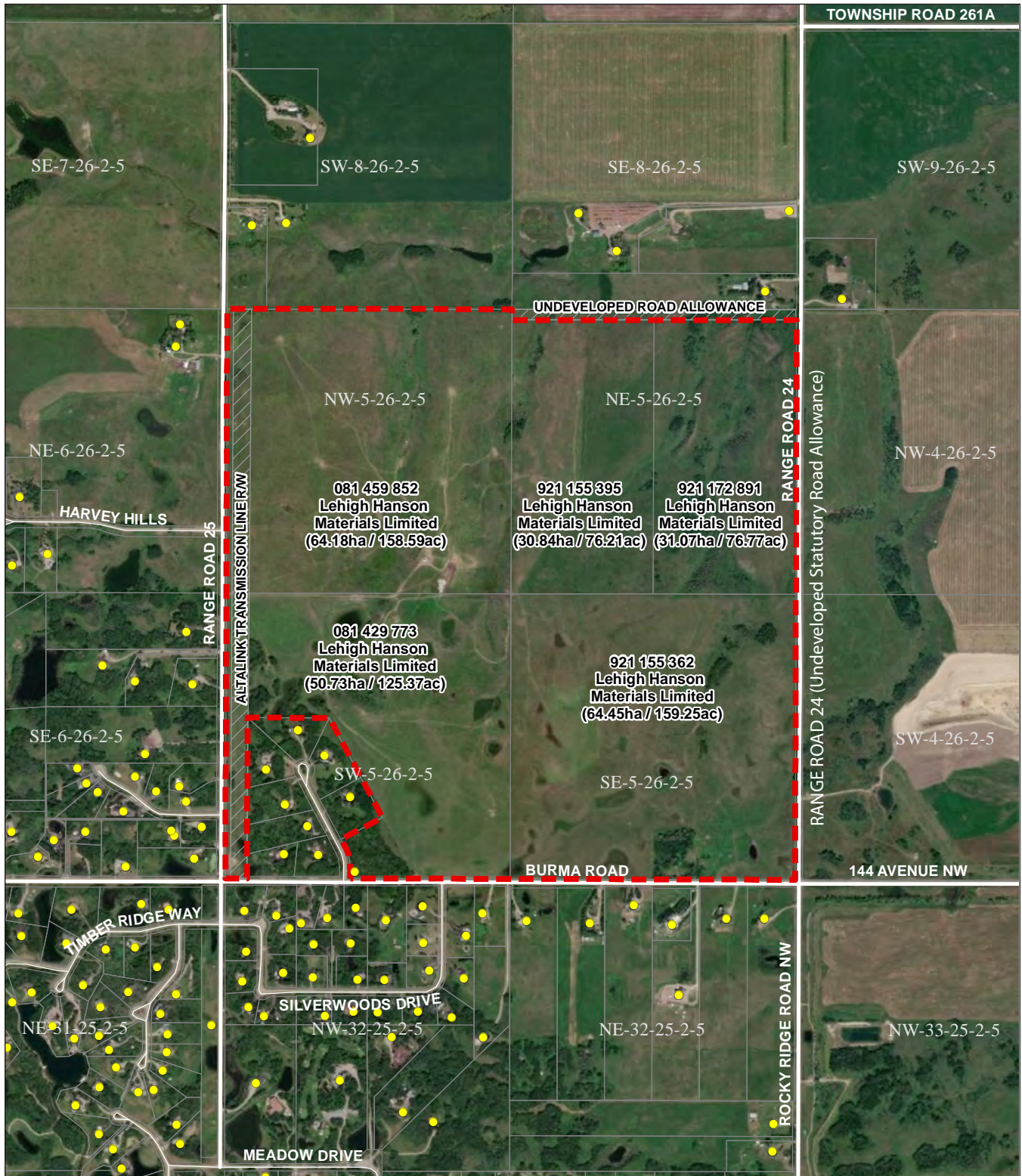
- An undeveloped ±30 m statutory road allowance along the north boundary of the NE 5-26-2-W5M held under a grazing lease agreement by Lehigh;
- An undeveloped ±20 m statutory road allowance along the east boundary of E ½ 5-26-2-W5M, the majority of which is held under a grazing lease agreement by Lehigh;
- A utility ROW containing overhead electrical transmission lines along the west boundary of SW 5 and NW 5, owned and operated by AltaLink;
- A pipeline ROW containing potable water infrastructure within SW and NW 5, directly west of the Range Road 25 statutory road allowance; and,
- A pipeline ROW containing natural gas distribution infrastructure within SW 5 directly north of Burma Road.

The balance of the site is undeveloped with minimal surface disturbances (primarily agricultural). The NW and SE of Section 5 previously each contained a farmstead development, however, in 2012 both were demolished. A **Phase I Environmental Site Assessment**<sup>5</sup> was conducted in 2008 as affecting the W ½ Section 5 which revealed that there is no evidence of surficial contamination on the site and no significant environmental concerns were identified that would require a Phase II ESA. Lehigh has owned the properties since then which have been used only for agriculture; therefore, an updated Phase I ESA was not considered necessary to support this MSDP.

<sup>5</sup> Phase 1 Environmental Site Assessment, Millennium EMS Solutions, July 2008, Executive Summary Pg i

PLAN AREA DESCRIPTION

FIGURE 5 | CURRENT SITE CONDITIONS



- Subject Land
- Municipal Address Point
- Parcel

### 7.3 Historical Resource Act Requirements

In 2013, two (2) **Historical Resources Impact Mitigation (HRIM)** reports<sup>6</sup> were prepared to investigate eleven (11) sites within the MSDP area that were previously identified to have potential to contain significant historic resources. Based on the results of the HRIM, the entire MSDP area was deemed not to contain significant resources.

In April 2014, clearances were provided from the Province for the project to proceed in accordance with the *Historical Resources Act (HRA)* on all properties within the MSDP area.

### 7.4 Vegetation

A **Vegetation & Rare Plants Technical Assessment (Lacuna Ecological, June 2020)** was prepared to evaluate the existing vegetation cover types and potential rare plant species and rare ecological communities occurring within the site. The Technical Assessment consisted of a desktop review supported by field surveys.

No rare plants or rare ecological communities were recorded during field surveys, and RVC is outside the known ranges for plant Species at Risk. The MSDP area has been predominately converted to introduced grass species (i.e. hay / tame pasture). There are some areas of modified native vegetation that have been affected by grazing activities. Current vegetation conditions are illustrated in **Figure 6: Vegetation Land Cover Types & Rare Plant Survey Locations**.

Lehigh will inspect and manage the Scott Pit for noxious and restricted weeds as defined by the *Weed Control Act* and other applicable regulations.

#### DEVELOPMENT POLICIES

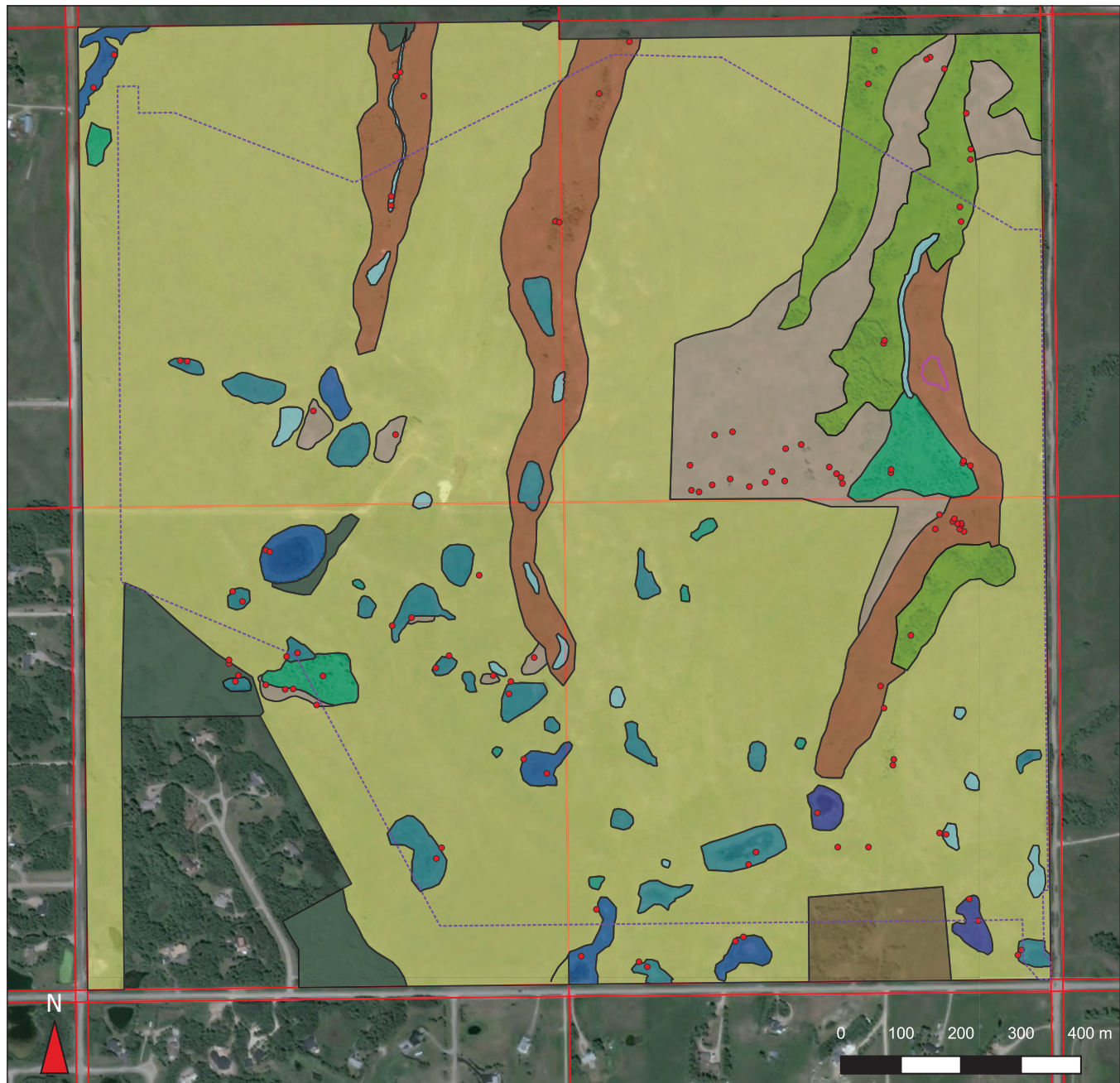
**Policy 7.4.1**

The developer shall undertake weed control during operations and reclamation as directed by the *Weed Control Act* and the RVC Land Use Bylaw.

<sup>6</sup>Historic Resources Impact Mitigation, Ghostpine Environmental Services, November 2013, Reports 1 & 2, Permits #2013-194 & #2013-204, Executive Summaries.



FIGURE 6 | VEGETATION LAND COVER TYPES &amp; RARE PLANT SURVEY LOCATIONS



## Vegetation Cover Types

- Hay/Tame Grass
- Modified Grassland
- Coulee
- Aspen/Balsam Coulee
- Aspen/Balsam
- Willow shrub
- Rural
- Ephemeral Waterbody
- Marsh Graminoid - Temporary
- Marsh Graminoid - Seasonal
- Marsh Graminoid - Semi-Permanent
- Shallow Open Water - Semi-Permanent - Brackish

## Rare Plant Survey Points

- Nodding thistle
- Project Footprint
- Quarter Section
- ESRI Satellite

Figure from: Vegetation and Rare Plants Technical Assessment, June 2020, Lacuna Ecological Ltd.



## 7.5 Wildlife & Wildlife Habitat

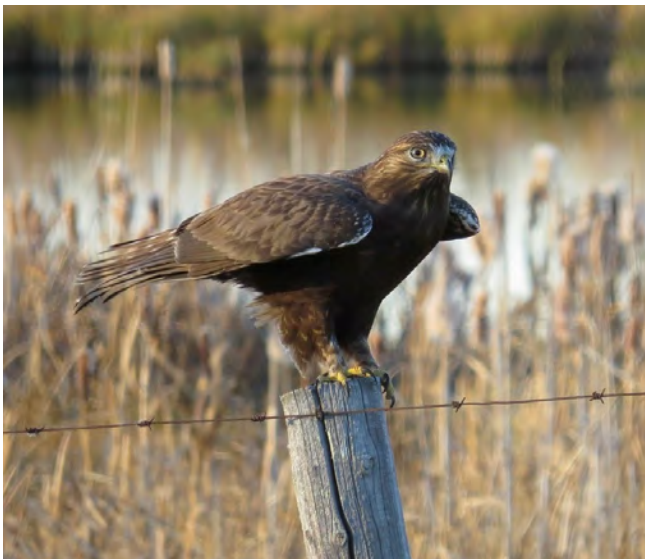
A **Wildlife Technical Assessment (AECOM, June 2020)** was prepared to evaluate the occurrence of wildlife and wildlife habitat within the subject lands and to determine if the proposed aggregate operations could have potential adverse effects. The technical assessment included a desktop review supported by field surveys.

Wildlife habitat within and adjacent to the MSDP area has been affected by livestock operations and residential development and as such, has limited diversity. Four (4) species observed during field studies are listed as sensitive (American kestrel, great blue heron, least flycatcher and sora). A number of active wildlife features including four raptor nests (two red-tailed hawks, one Swainson's hawk, one long-eared owl), four sora breeding wetlands, and a coyote den were identified and habitats are illustrated in **Figure 7: Wildlife Features**. The relative mobility of these species combined with the presence of wetlands and forest stands in the off-site surrounding area suggests that wildlife potentially displaced by the proposed Scott Pit will be capable of finding similar habitat. Phased development and progressive/final reclamation combined with recommended mitigation measures will contribute to reduced effects of the proposed development on wildlife and wildlife habitat.

### DEVELOPMENT POLICIES

#### Policy 7.5.1

Stripping & grading shall be discouraged within the MSDP area between February 15 and August 28. Within this period, a qualified professional biologist will conduct a search for migratory bird nests, raptor nests or mammal dens as appropriate prior to the start of construction activities. If an active nest and/or den is detected, an appropriate setback will be established in accordance with the requirements of relevant Federal legislation.





PLAN AREA DESCRIPTION

FIGURE 7 | WILDLIFE FEATURES

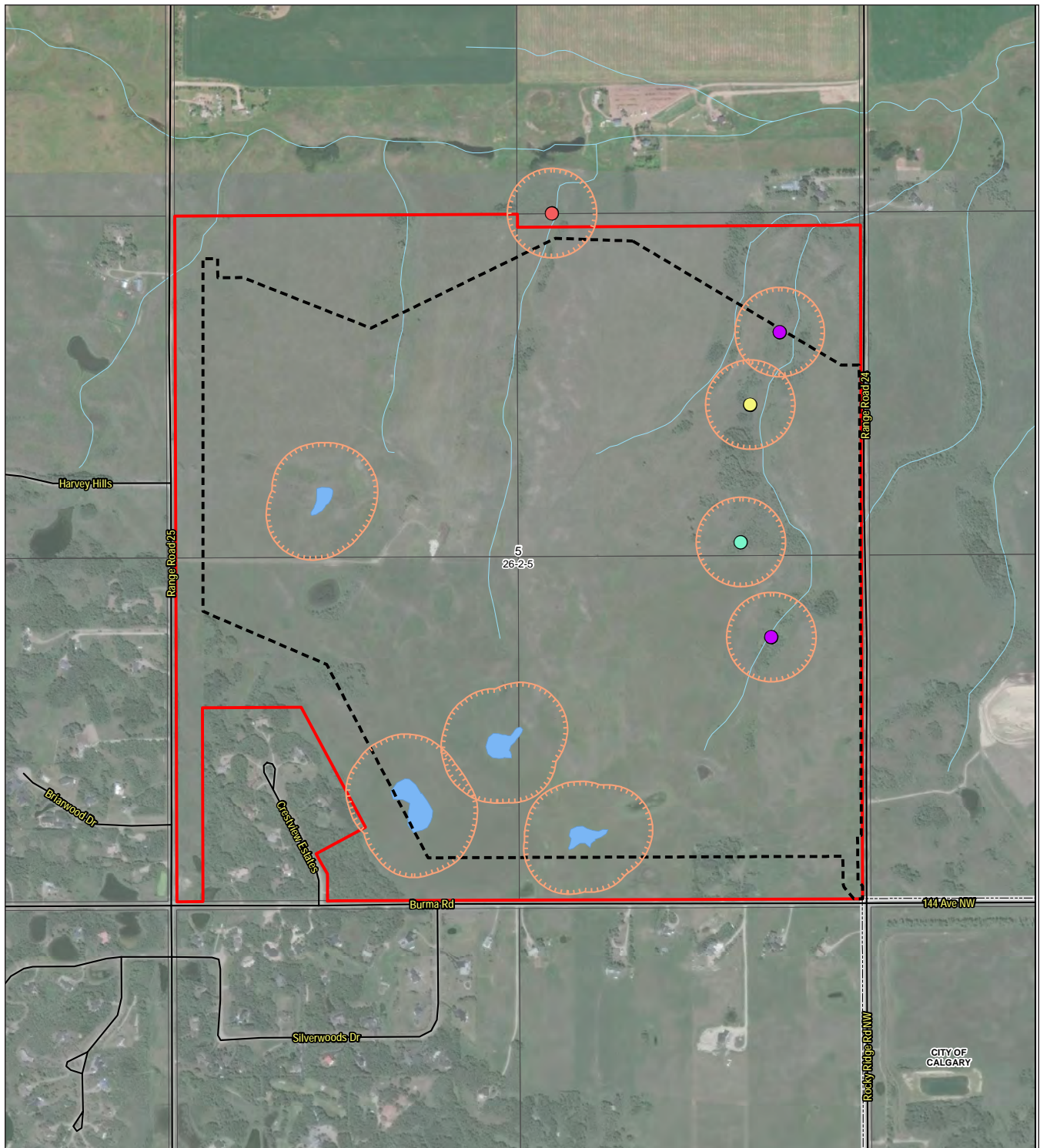


Figure from: Wildlife Technical Assessment,  
June 2020, AECOM

- Property Boundary
- Project Footprint
- Incidental Wildlife Feature
- Coyote Den

- Wildlife Features**
- Long-eared Owl Tree Stick Nest
- Red-tailed Hawk Tree Stick Nest
- Swainson's Hawk Tree Stick Nest
- Sora Breeding Wetland
- Wildlife Feature Setback**
- 100 m Setback When Active

- General Features**
- Road
- ~ Ephemeral Drainage \*
- City of Calgary Limits

## 7.6 Surface Hydrology & Wetlands

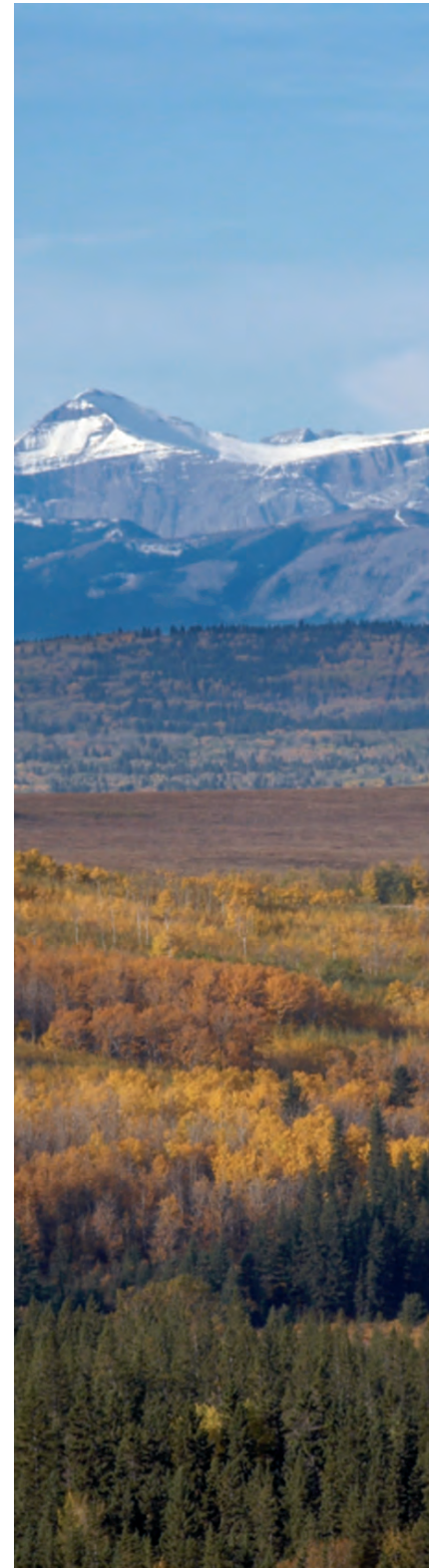
A **Wetlands Technical Assessment (AECOM, June 2020)** was prepared to identify the locations of existing wetlands occurring within the site. The technical assessment included a desktop review supported by field surveys.

As illustrated by **Figure 8: Wetlands**, the assessment concluded the MSDP area contains forty-eight (48) wetlands and six (6) ephemeral water bodies. The site does not contain any permanent bed and banks which could be claimed by the Crown, and as such, a Public Lands Act disposition will not be required in support of this proposed development. An application for disturbance of any wetlands within the Project area will be submitted to AEP as discussed further in **Section 25.2**.

## 7.7 Groundwater

A **Hydrogeological Technical Assessment (AECOM, July 2020)** was prepared to summarize the project components relative to regulatory requirements associated with groundwater, present methods and results of the field investigations completed, and discuss the potential for groundwater impacts relative to the proposed Scott Pit.

As illustrated in **Figure 9: Borehole Tests and Groundwater Monitoring Wells**, the assessment was based on data gained from field investigations conducted between 1994 to 2020 collected from fifty-four (54) boreholes advanced within the site between 1994 and 2019. Groundwater monitoring has occurred at the site since 2011 with additional testing occurring in 2016, 2017, 2019 and 2020 and hydraulic conductivity testing completed in 2020. The field assessments were supplemented with a desktop assessment and geological modelling. Of the ten (10) monitoring wells installed within the MSDP area, there are only three (3) wells that have a consistent presence of groundwater as discussed further in **Section 14.0**.





PLAN AREA DESCRIPTION

FIGURE 8 | WETLANDS

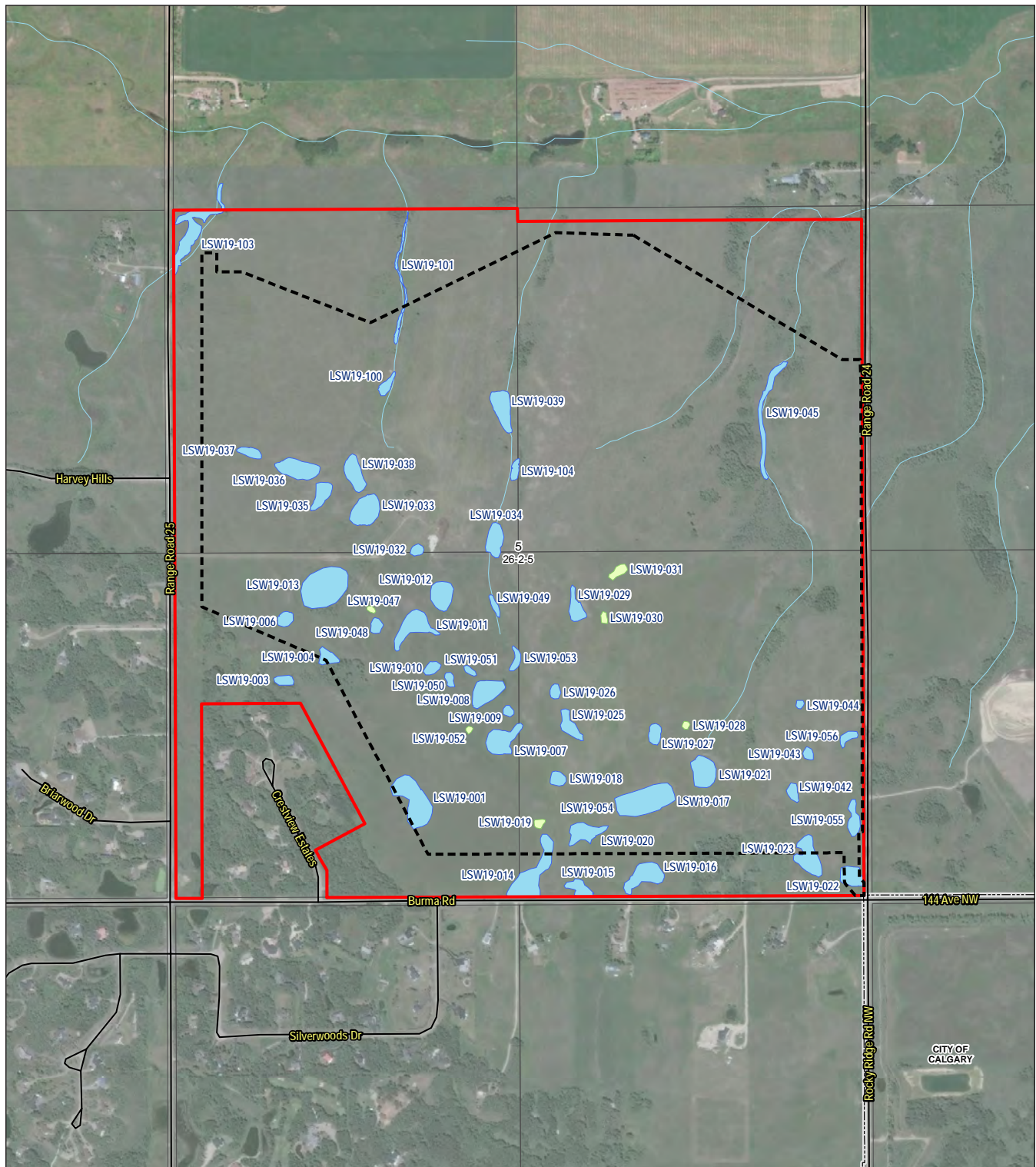


Figure from: Wetlands Technical Assessment, June 2020, AECOM

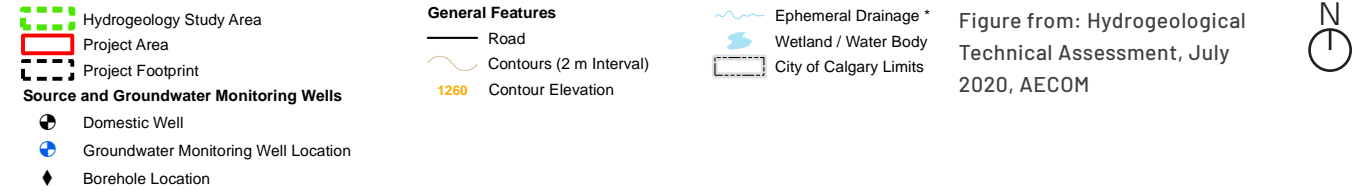
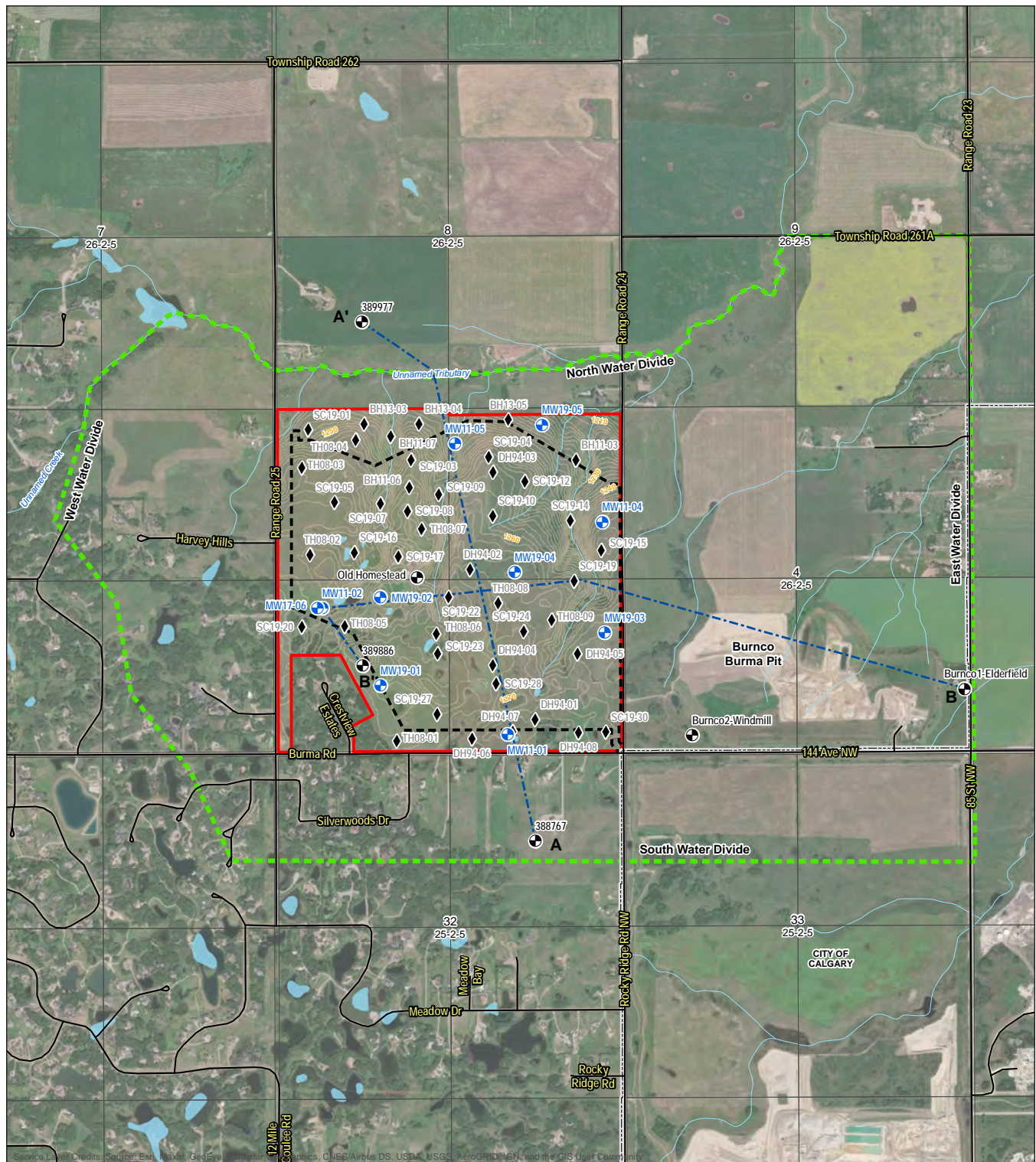
Property Boundary  
Project Footprint

**Wetlands**  
Wetland  
Ephemeral Waterbody

**General Features**  
Road  
Ephemeral Drainage  
City of Calgary Limits



**FIGURE 9 | BOREHOLE TESTS AND GROUNDWATER MONITORING WELLS**



## PLAN AREA DESCRIPTION

## 7.8 Topography & Surface Drainage

As illustrated in **Figure 10: Topography & Surface Drainage**, the MSDP area slopes generally from southwest to northeast. Surface drainage within the subject lands is concentrated within a series of naturally occurring coulee features which have created individual sub-catchment areas, each containing ephemeral drainages falling generally to the north towards an un-named tributary of the Bigsprings Creek.

## 7.9 Soils

A **Soils Technical Assessment (AECOM, June 2020)** was prepared to evaluate the project components relative to the County Servicing Standards and provincial legislative requirements (i.e. Environmental Protection and Enhancement Act, Soils Conservation Act, and Code of Practice for Pits). A combination of desktop assessment and field surveys were completed to assess the surficial soils within the MSDP area.

The subject lands are located within the Foothills Parkland Natural Subregion characterized by rolling to hilly terrain with several intermittent drainage features. Four (4) dominant soil types are found in this Subregion.

As illustrated in **Figure 13: Soil Sampling Locations**, a total of 157 shallow soil inspections and 24 soil core inspections were completed within the MSDP area. Topsoil and surficial subsoils within the subject lands predominantly consist of loam to clay loam to clay.

Topsoil and subsoil were observed to have an obvious colour change that will assist in avoiding mixing soil horizons during stripping operations. Topsoil and subsoil will be salvaged and stored in vegetated piles for use in progressive reclamation and post-operation reclamation activities.






### DEVELOPMENT POLICIES

<b>Policy 7.9.1</b>	The developer shall salvage all topsoil, subsoil, and overburden material within the MSDP area for use in the construction of landscaped screening berms and for reclamation.
<b>Policy 7.9.2</b>	The developer shall avoid stripping & grading activities during high wind conditions and all stockpiles shall be vegetated to minimize erosion.



**FIGURE 10 | TOPOGRAPHY & SURFACE DRAINAGE**



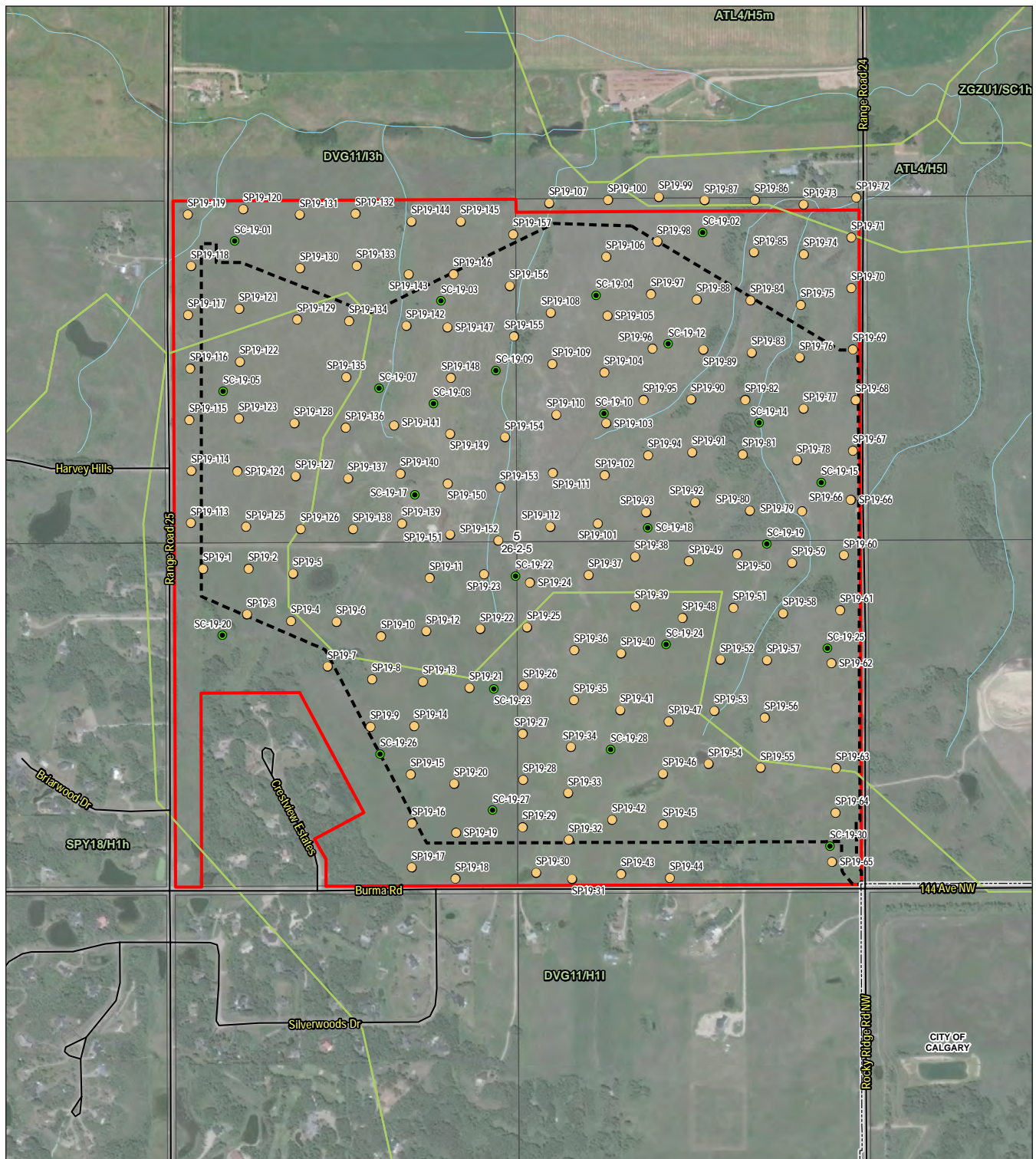
-  Subject Land
-  Municipal Boundary
-  Contour
-  Drainage Direction
-  Ephemeral Drainage





## PLAN AREA DESCRIPTION

FIGURE 11 | SOIL SAMPLING LOCATIONS



Property Boundary

Project Footprint

## Soils

Soil Core Sampling Locations

Shallow Soil Sampling Locations

Soil Map Unit Polygon

## General Features

Road

Ephemeral Drainage

City of Calgary Limits

Figure from: Soils Technical Assessment, June 2020, AECOM



# Section C: Aggregate Operations

## 8.0 Preliminary Site Development Plan

As conceptually illustrated by **Figure 12: Site Development Concept**, on-site operations will commence with stripping of topsoil and overburden materials for use in establishing landscaped screening berms around the perimeter of the Project to facilitate post-operations end use reclamation.

Proposed setbacks for extraction activities to be measured from the property lines are as follows:

- North property line: Minimum 69 m;
- South property line: Minimum 150 m;
- West property line: Minimum 100 m; and
- East property line: Minimum 30 m.

Lehigh anticipates excavating 2M tonnes per year with an approximate total of 50M tonnes being removed over a 25 to 30-year operating period.

The Project will be regulated by AEP via a registration under the Code of Practice for Pits and by RVC through a series of development permit applications to be submitted throughout the life of the project.

Progressive reclamation of the pit will be ongoing throughout the life of the operation. Previously mined areas will be reclaimed to agricultural land use as mining progresses, using overburden from future years to backfill depleted areas. Lehigh is prepared to work collaboratively with the local community, RVC and regional stakeholders on an end use strategy that could establish a significant community benefit.

### DEVELOPMENT POLICIES

#### Policy 8.1

The development of the Scott Pit is expected to occur as generally illustrated on Figure 12: Development Concept.



FIGURE 12 | SITE DEVELOPMENT CONCEPT



- Property Boundary
- Project Footprint
- Setback (Existing Landscape Retained)
- Berm (New Landscape)
- Conveyor
- Site Access
- Setback





## 9.0 Operations & Management Plan

Typical aggregate mining and primary processing activities within each operational phase are anticipated to include one (1) crusher & screening spread, one (1) loader, one (1) dozer, and one (1) excavator. Stripping and reclamation activities, typically not conducted simultaneously with mining, are anticipated to include three (3) scrapers and one (1) dozer.

Potable water and sanitary servicing for onsite employees will be supplied by portable facilities to be managed by Lehigh via a local contracted supplier. Similarly, refuse facilities will be provided onsite and removed on a regular basis and transported to an approved waste management facility.

Hours of operation for the primary processing activity will be Monday – Friday from 7 AM to 8 PM, with no primary processing activities on weekends or statutory holidays.

Hours of operation for loading and conveying will be Monday – Friday from 7 AM to 8 PM and Saturdays from 7 AM to 6 PM, with no activity on Sundays or statutory holidays.

Lehigh will limit open excavation areas at any one time to a maximum of a 24 ha (60 ac).

### DEVELOPMENT POLICIES

<b>Policy 9.1</b>	The developer shall provide an Operations & Management Plan at each development permit application stage to clarify the specific requirements in support of each operational phase.
<b>Policy 9.2</b>	Hours of operation for primary processing shall be Monday – Friday from 7 AM to 8 PM, and hours of operation for loading and conveying will be Monday – Friday from 7 AM to 8 PM, and Saturdays from 7 AM to 6 PM.
<b>Policy 9.3</b>	No primary processing (i.e. crushing) shall occur within the site on weekends or statutory holidays, and no conveying will occur on Sundays or statutory holidays.
<b>Policy 9.4</b>	The maximum size of an open excavation area at any given time shall be limited to a maximum of 24 ha (60 ac).

## AGGREGATE OPERATIONS

## 10.0 Site Access

Material from the Scott Pit will be transported by overland conveyor to the Spy Hill facility in the City of Calgary. The Project will not require any haul truck traffic to and from the site. As such, a full Traffic Impact Assessment was not conducted. Notwithstanding, a **Traffic Analysis (AECOM, June 2020)** was prepared in support of this MSDP which conducted a comparison between the Project and a hypothetical country residential development. The assessment concluded that aggregate operations proposed within the Scott Pit will generate substantially less traffic than a hypothetical country residential development within the site.

As illustrated by **Figure 13: Site Access**, access to the Scott Pit will be provided from Range Road 24, presently an undeveloped statutory road allowance. The specific type, configuration and level of improvement at the Burma Road / Range Road 24 intersection and within the undeveloped road right-of-way will be determined at the development permit stage in accordance with the County's Servicing Standards.

### DEVELOPMENT POLICIES

<b>Policy 10.1</b>	Access to the Scott Pit is expected to occur as generally illustrated on Figure 13: Site Access.
<b>Policy 10.2</b>	The specific type, configuration and level of improvement at the Burma Road / Range Road 24 intersection and within the undeveloped road right-of-way shall be determined at the development permit stage in accordance with the County's Servicing Standards.

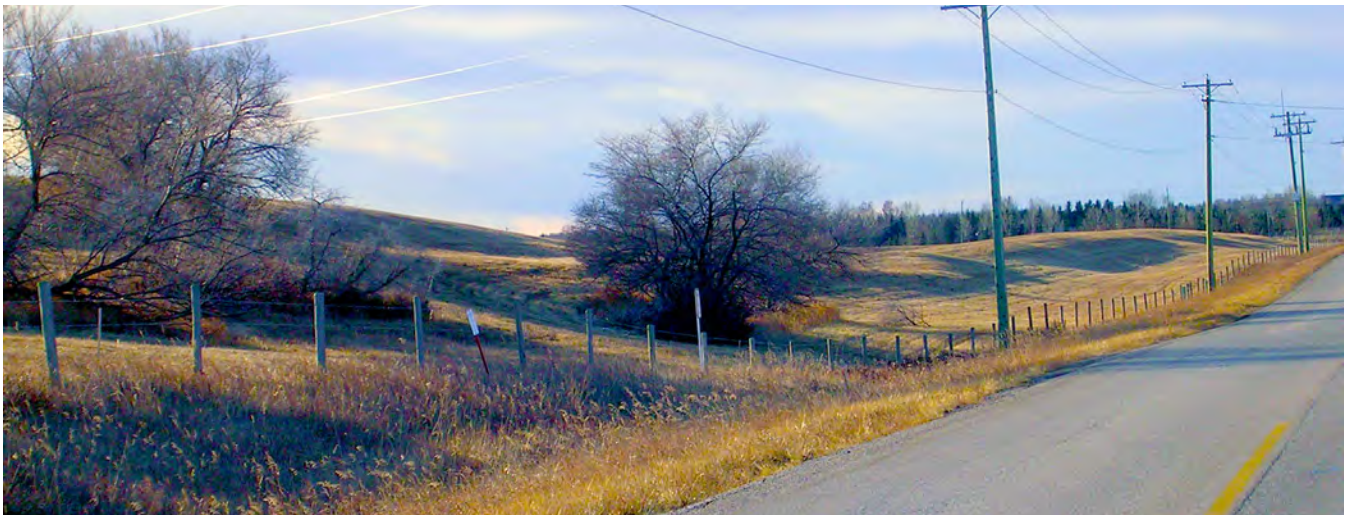
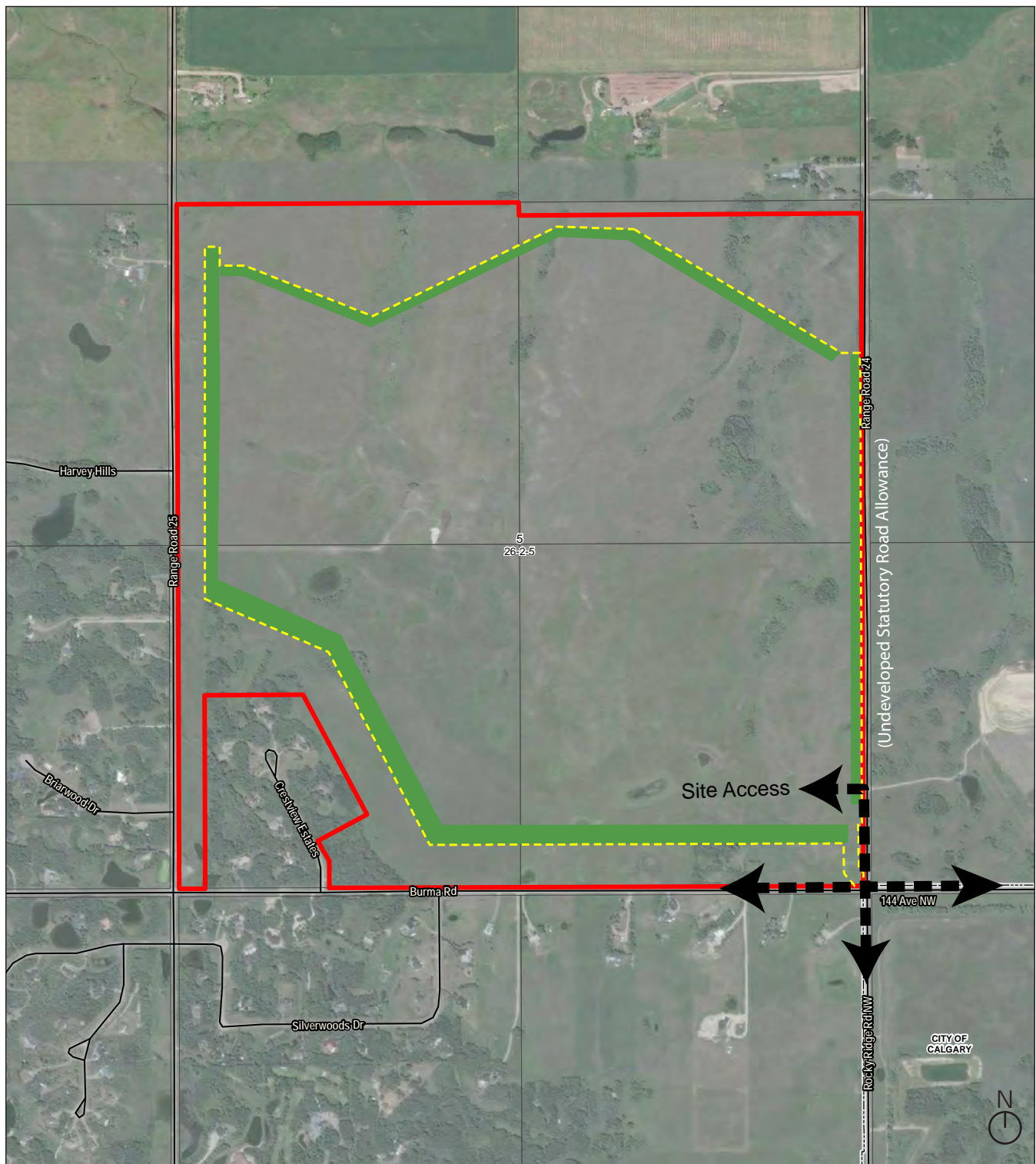


FIGURE 13 | SITE ACCESS



- |                   |                        |
|-------------------|------------------------|
| ↔ Site Access     | City of Calgary Limits |
| Property Boundary | Berm (New Landscape)   |
| Project Footprint | Road                   |



## AGGREGATE OPERATIONS

## 11.0 Overland Conveyor

Lehigh will construct a  $\pm 4.5$  km overland conveyor to transport aggregate materials from the Scott Pit to the Spy Hill facility located in the City of Calgary. The alignment of the proposed overland conveyor has been secured via an agreement with the Province and initial consultation has occurred with the County and the City regarding the proposed roadway crossings.

As illustrated by **Figure 14: Overland Conveyor Alignment**, the proposed alignment of the overland conveyor will:

- Extend from the southeast corner of the MSDP area underneath Burma Road;
- Traverse the north and east boundaries of the STAR Pit aggregate facility (owned by the Province);
- Cross underneath 85th Street NW and traverse the northern boundary of the Calgary Correctional Facility (owned by the Province); and
- Enter Lehigh's Spy Hill processing facility (owned by the City of Calgary) and traverse the eastern boundary of the site.

The overland conveyor will be screened from public roadways and adjacent properties via a landscaped berm. The conveyor will be shrouded to mitigate dust and noise and the area containing the overland conveyor may be fenced to ensure public safety (where required by the Province).

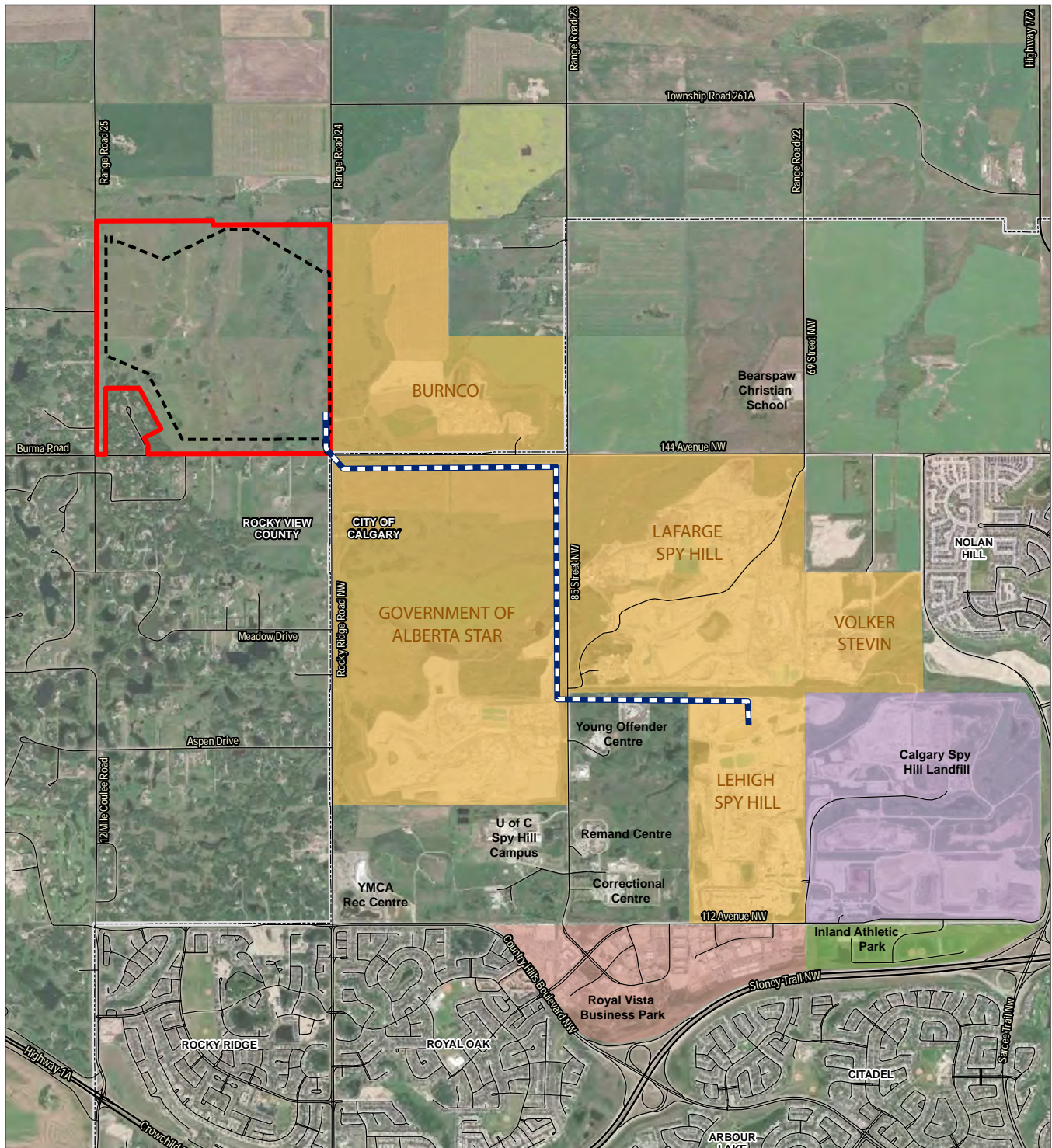
Development permit approvals will be required from both the County and the City of Calgary in support of the overland conveyor which may require a development agreement and/or other agreements (with one or both jurisdictions) to facilitate its construction. Lehigh will collaborate with both jurisdictions at the development permit stage. The specific design and alignment of the conveyor system will be determined at the development permit stage.

Lehigh acknowledges the conveyor system is a key operational component intended to mitigate noise, air quality, and traffic safety concerns associated with hauling aggregates. As such, in the event the conveyor is taken off line for whatever reason, Lehigh further acknowledges that the hauling of aggregate materials from the Scott Pit will not be permitted and export of material would cease until the conveyor resumes operation.

### DEVELOPMENT POLICIES

<b>Policy 11.1</b>	The developer shall construct an overland conveyor to transport aggregate materials from the Scott Pit to the Lehigh Spy Hill facility, as generally illustrated by Figure 14: Overland Conveyor Alignment.
<b>Policy 11.2</b>	The developer shall screen the alignment of the overland conveyor from public roadways via a landscaped berm and install fencing to enhance public safety where appropriate.
<b>Policy 11.3</b>	The design of the overland conveyor shall ensure aggregate materials are covered to reduce dust and noise.
<b>Policy 11.4</b>	In the event the conveyor is taken off line for whatever reason, the hauling of aggregate materials from the Scott Pitt will not be permitted and export of raw material will cease until the conveyor resumes operation.
<b>Policy 11.5</b>	The operation of the overland conveyor shall respect the prescribed sound levels established by the County's Noise Control Bylaw C-5772-2003 and the City of Calgary's Community Standards Bylaw 5M2004, Part 9.
<b>Policy 11.6</b>	The developer shall secure all required approvals from the County, the City of Calgary and the Province of Alberta prior to constructing the overland conveyor.

**FIGURE 14 | OVERLAND CONVEYOR ALIGNMENT**



- |                          |  |
|--------------------------|--|
| Off-Site Conveyor System | Aggregate and Natural Resource Industrial Land |
| Property Boundary        | Calgary Spy Hill Landfill                      |
| Project Footprint        | Royal Vista Business Park                      |
| City of Calgary Limits   | Inland Athletic Park                           |
| Highway                  |  |
| Road                     |  |



## AGGREGATE OPERATIONS

## 12.0 Development Staging

As illustrated by **Figure 15: Phasing & Mining Sequencing Plan**, aggregate operations will commence in Phase 1 within the southeast corner of the site. Operations will generally proceed to the southwest, northeast, and then to the northwest in order to complete mining in the northwest corner of the Project.

Aggregate operations within the Scott Pit are expected to occur over a 25 to 30-year time frame depending on market conditions. Development permit approvals will be required to support each phase of the Project.

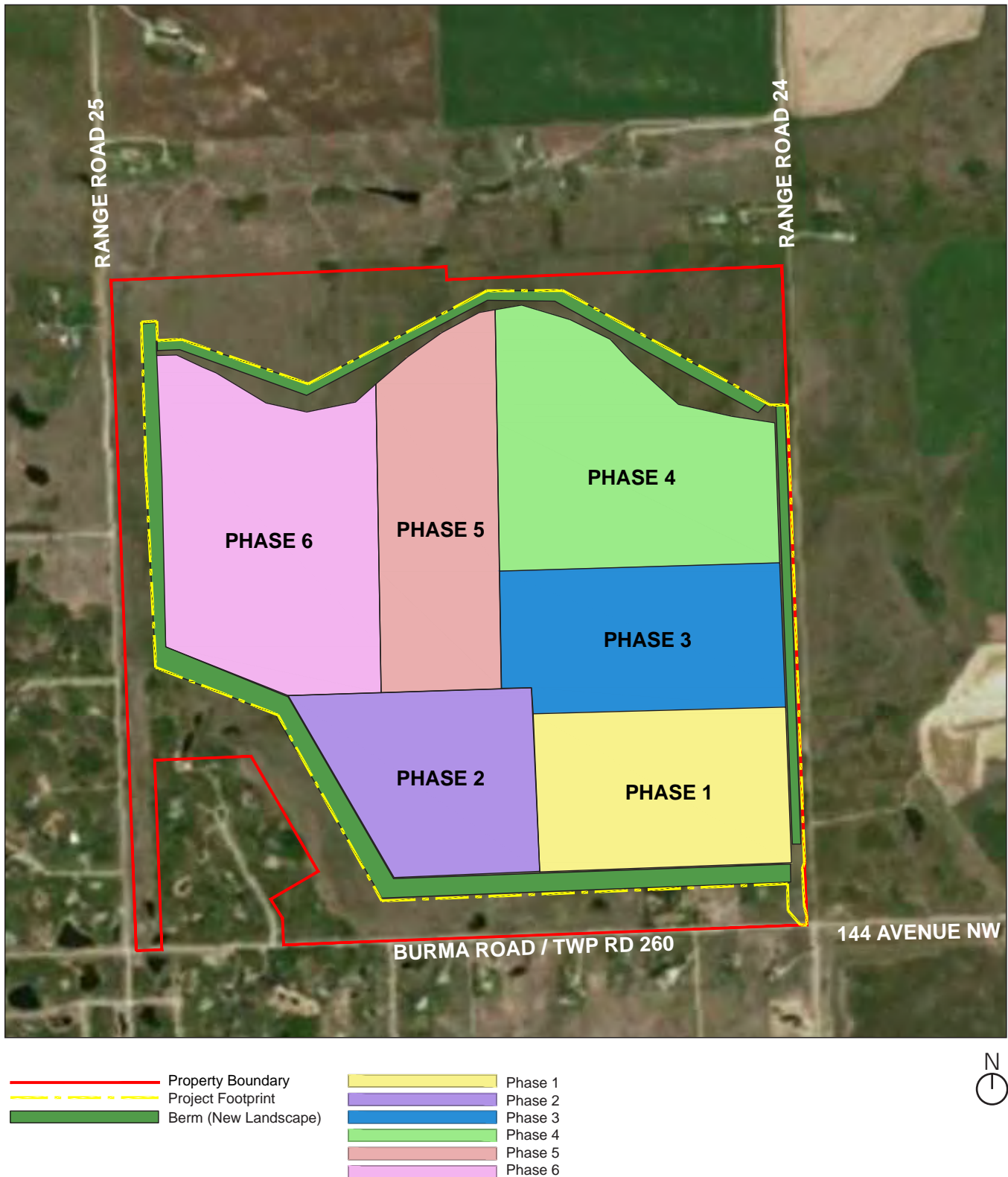
### DEVELOPMENT POLICIES

<b>Policy 12.1</b>	Staging of aggregate operations is expected to proceed as generally illustrated on Figure 15: Development Phasing Plan.
<b>Policy 12.2</b>	The developer shall provide a Mining & Excavation Plan at the development permit stage to detail how aggregate operations are expected to proceed within each operational phase.





FIGURE 15 | DEVELOPMENT PHASING PLAN



## AGGREGATE OPERATIONS

## 13.0 Stormwater Management

A **Conceptual Level Stormwater Management Report (AECOM, July 2020)** was prepared to provide a strategy for mitigating the June 2005 storm event (greater than a 1:100 year event) peak rainfall & runoff events within the Scott Pit, and to manage water quality and quantity considerations in accordance with the County Servicing Standards. The SWMR establishes conceptual locations for detention ponds at each development phase in addition to expectations for final design grades within the Scott Pit post-operations.

Surface drainage within the Project will be managed to control unit area release rates and volume retention targets in accordance with the Bearspaw Master Drainage Plan and the Nose Creek Watershed Management Plan. Implementation of stormwater management via on site retention ponds is anticipated to help reduce downstream erosion and local flooding issues during high storm events, and to increase infiltration and recharge of the underlying aquifer within mining areas.

### 13.1 Sediment & Erosion Control

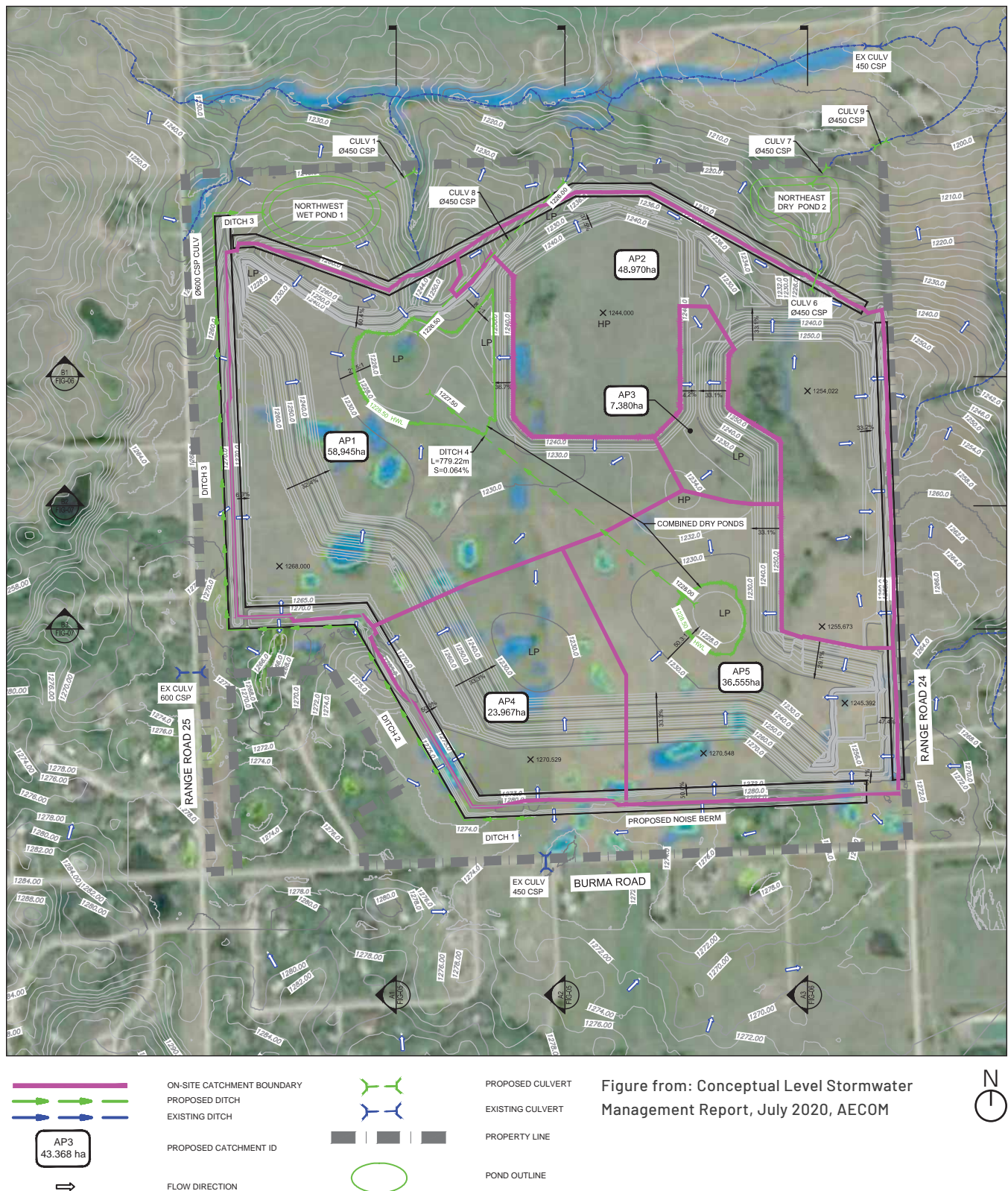
Lehigh will implement appropriate erosion & sediment control techniques during aggregate operations and site reclamation activities. Erosion & sediment control plans for each operational phase will be prepared in support of each development permit application.

#### DEVELOPMENT POLICIES

<b>Policy 13.1</b>	Stormwater management within the Project is expected to occur as generally illustrated on Figure 16: Stormwater Management.
<b>Policy 13.2</b>	The developer shall provide a Site-Specific Stormwater Management Plan at the development permit stage to clarify the specific stormwater management requirements in support of each operational phase.
<b>Policy 13.3</b>	The stormwater unit area release rates and volume control targets shall be consistent with the Bearspaw Master Drainage Plan and the Nose Creek Watershed Management Plan.
<b>Policy 13.4</b>	The developer shall provide an Erosion & Sediment Control Plan at the development permit application stage in support of each operational phase.



**FIGURE 16 | STORMWATER MANAGEMENT**



## AGGREGATE OPERATIONS

## 14.0 Groundwater Management

A **Hydrogeological Technical Assessment (AECOM, July 2020)** was prepared to establish baseline conditions, gain an understanding of subsurface hydrogeological conditions, and analyze the potential effects of proposed aggregate operations within the MSDP area on the quantity and quality of local groundwater resources.

As illustrated by **Figure 17: Groundwater Monitoring**, ten (10) monitoring wells were installed within the site over the last 25 years, of which only three (3) contained water across multiple monitoring events. The quality of the water within the three (3) wells exceeds total dissolved solids guidelines, and in some places, is undergoing a salinization process from unknown sources. As such, the local groundwater within the Tertiary Sand and Gravel Aquifer is not considered suitable for drinking.

Residential wells surrounding the MSDP area draw water from a deeper aquifer within the Paskapoo Formation, underlying the Tertiary Sand & Gravel which is proposed for mining. Groundwater present in the wells within the subject lands appears not to be hydrostratigraphically or chemically related to the water drawn in residential wells surrounding the MSDP area. Furthermore, hydraulic conductivity properties tested in the wells which contained water and the saturated interval of water in those wells indicate low aquifer capacity in the Tertiary Sand & Gravel Aquifer. As such, this aquifer has no capacity to support residential uses. The potential Project-related adverse effects to groundwater quantity are anticipated to be negligible because there is limited hydraulic connectivity between the Tertiary Sand & Gravel Aquifer and the underlying Paskapoo Aquifer.

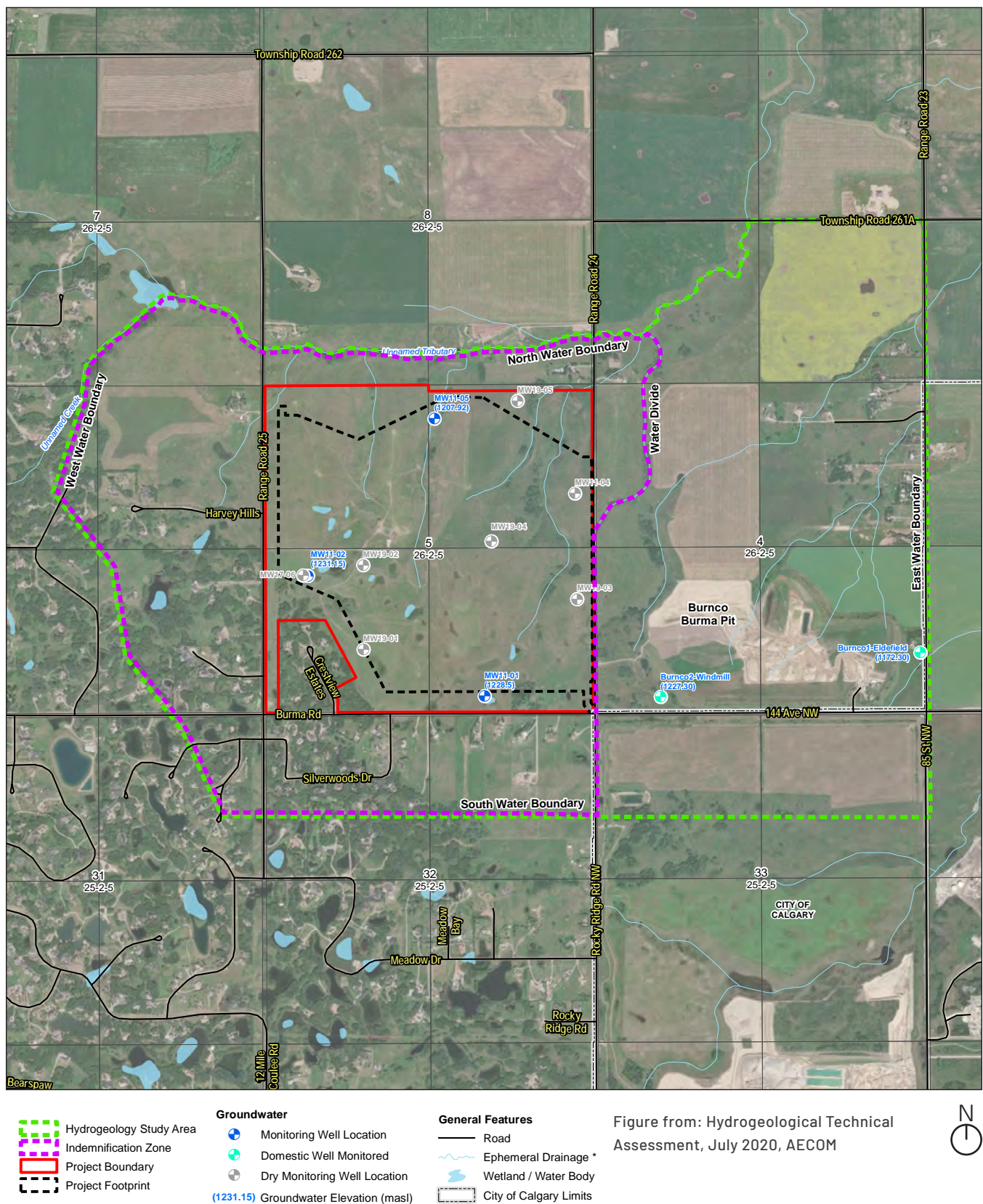
It is acknowledged that the integrity of surrounding groundwater wells is important to neighbouring residents. While impacts on local groundwater resources is anticipated to be negligible, Lehigh will offer a Groundwater Indemnification Program to landowners within the area illustrated by Figure 17: Groundwater Monitoring. The Program will support the repair or replacement of groundwater wells that are demonstrated to be negatively impacted by the Project.

### DEVELOPMENT POLICIES

<b>Policy 14.1</b>	The developer shall implement a groundwater monitoring program at the development permit stage.
<b>Policy 14.2</b>	The developer shall regularly post groundwater levels from the program on a project website.
<b>Policy 14.3</b>	The developer is expected to implement a Groundwater Indemnification Program to landowners with groundwater wells located within the boundary of the hydrogeological study area as shown on Figure 17: Groundwater Monitoring to support the repair or replacement of groundwater wells that are demonstrated to be negatively impacted by the Project.
<b>Policy 14.4</b>	The developer shall address groundwater considerations on an ongoing basis as described in Section 24.0 of this Plan.



**FIGURE 17 | GROUNDWATER MONITORING**



## AGGREGATE OPERATIONS

## 15.0 Air Quality Management

An **Air Dispersion Modelling Assessment (AECOM, June 2020)** was prepared to assess the potential for egress of fugitive emissions outside the MSDP area during proposed operations. The assessment considered ambient baseline air quality conditions compared to aggregate operations anticipated within the Phase 2 mining block (i.e. the proposed mining location closest to the most sensitive air quality receptors) and were evaluated according to three (3) scenarios:

- A Baseline scenario that considered background air quality dispersion modelling measured in Calgary and the effects of regional aggregate operations;
- A Project-only scenario that considered the operating effects of the proposed Scott Pit alone; and
- An Application scenario that considered combined Baseline and Project-only impacts, including an assessment of cumulative impacts.

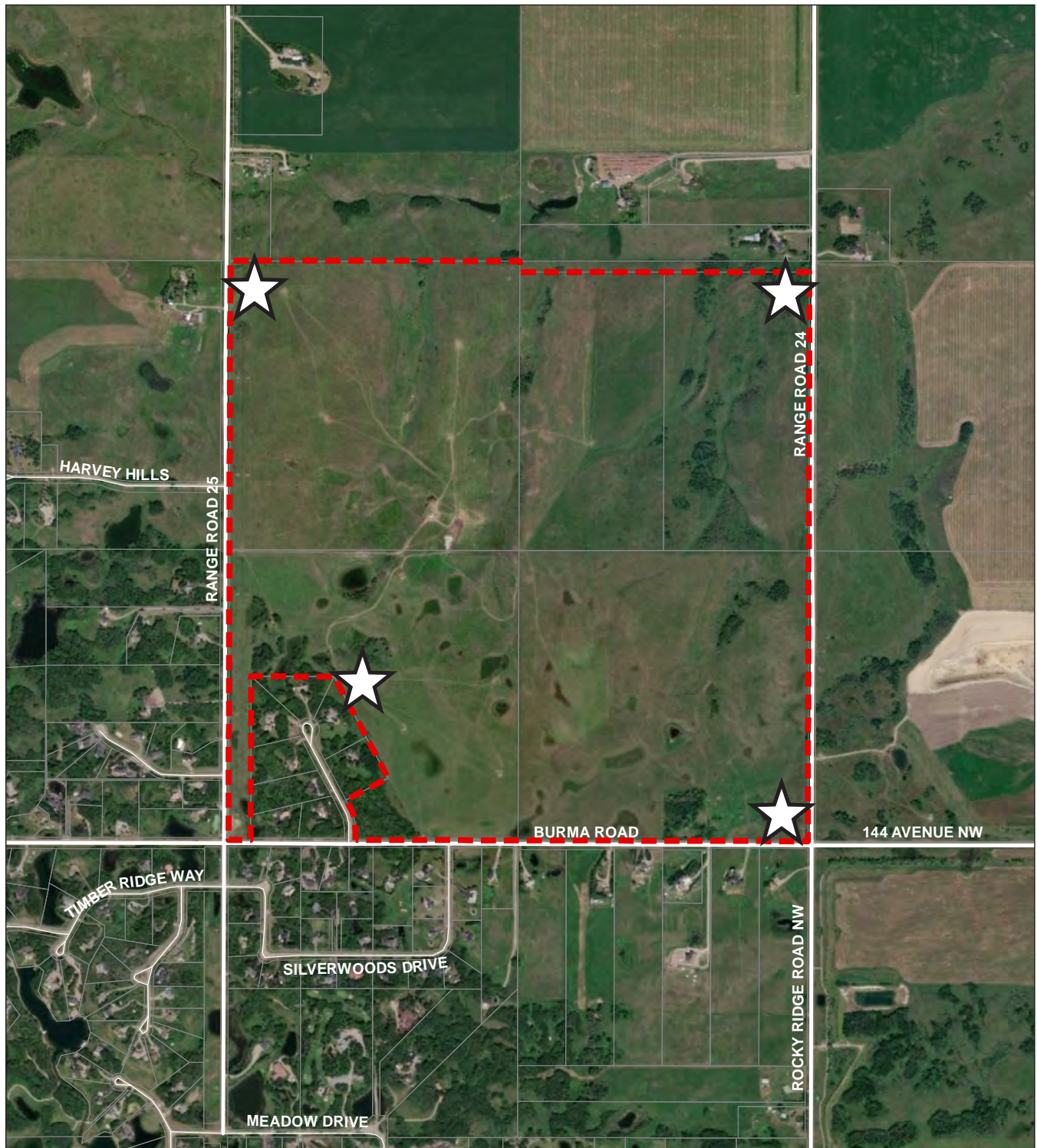
The conclusions of the assessment indicate that anticipated operation of the proposed aggregate facility within both summer and winter conditions will result in negligible to low adverse effects due to emissions from combustion sources and fugitive dust (TSP, PM10 and PM2.5) emissions. Based on the conservative nature of the predictions, it is unlikely that concentrations of particulate generated within the MSDP area as result of proposed aggregate operations will exceed the Alberta Ambient Air Quality Objectives (AAAQO).

### DEVELOPMENT POLICIES

<b>Policy 15.1</b>	The developer shall conduct its operations to maintain air quality levels measured at the property line of the Project at or below the levels required by the Alberta Ambient Air Quality Objectives (AAAQO).
<b>Policy 15.2</b>	The developer shall implement an air quality monitoring program at the development permit stage, including measurement of silica. Monitoring stations shall be installed within the MSDP area as illustrated in Figure: 18 Air Quality Monitoring.
<b>Policy 15.3</b>	The developer shall regularly post results from the air quality monitoring program on a project website.
<b>Policy 15.4</b>	The developer shall provide dedicated contact information for neighbours within the Project vicinity to report issues with air quality relative to aggregate operations.
<b>Policy 15.5</b>	The developer shall address air quality considerations on an ongoing basis as described in Section 24.0 of this Plan.



**FIGURE 18 | AIR QUALITY MONITORING**



- Subject Land
- ☆ Conceptual Air Quality Monitoring Locations



## AGGREGATE OPERATIONS

## 16.0 Noise Management

An **Acoustic Assessment (SLR, June 2020)** was prepared to assess the potential sound egress from the proposed aggregate operation relative to nine (9) noise sensitive receptors, as illustrated by **Figure 19: Noise Impacts & Monitoring Strategy**. Ambient sound monitoring was undertaken between October 31 and November 4, 2019 to establish baseline conditions within the site and surrounding area.

Sound propagation modeling was undertaken to predict the sound levels anticipated by proposed aggregate operations based on recognized international standards, and meteorological and topographic conditions.

The conclusions of the assessment indicate that sound levels anticipated from the Project will not exceed 55 dB measured at each noise sensitive receptor. While no prescriptive limit exists in the RVC bylaws, the proposed maximum noise limit of 55dB is lower than City of Calgary daytime noise limits by a margin of 10dB.

Lehigh will implement noise mitigation measures at the development permit stage such as constructing the landscaping berm on the periphery of the MSDP area, ensuring all equipment operating within the site are equipped with broadband backup alarms and ensuring that all activities within the aggregate operation occur below the grade of surrounding properties.

Lehigh acknowledges that the maximum noise generation thresholds may be exceeded during the preliminary site preparation and commencement of the initial phase of aggregate operations until such time mining activities drop below existing grades and/or the elevation of the berms.

### DEVELOPMENT POLICIES

<b>Policy 16.1</b>	The developer shall maintain noise levels generated by the operation at or below 55 dB measured at the property line of the MSDP area.
<b>Policy 16.2</b>	The developer shall install monitoring stations at each corner of the MSDP area to record noise levels throughout the lifespan of active aggregate operations.
<b>Policy 16.3</b>	The developer shall regularly post results from the noise monitoring program on a project website.
<b>Policy 16.4</b>	The developer shall provide dedicated contact information for neighbours to report issues with noise relative to aggregate operations within the Project area.
<b>Policy 16.5</b>	The developer shall address noise impact considerations on an ongoing basis as described in Section 24.0 of this Plan.



FIGURE 19 | NOISE IMPACTS &amp; MONITORING STRATEGY

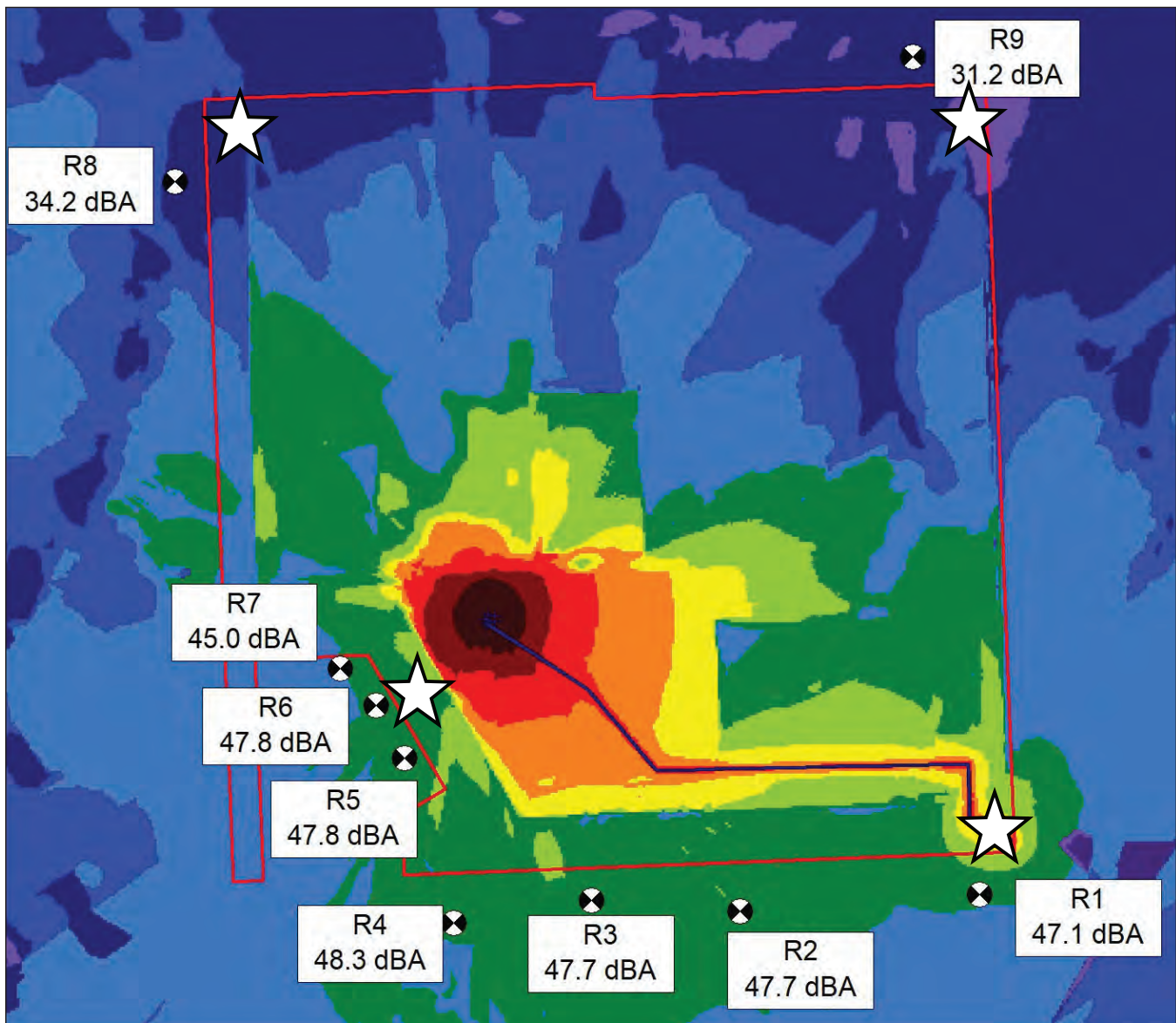
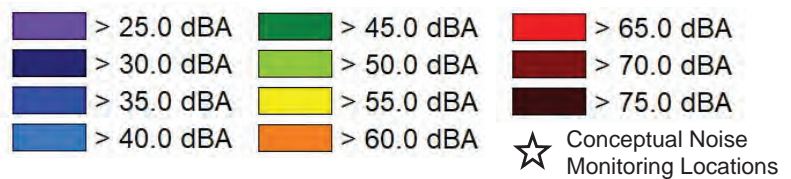


Figure from: Acoustic Assessment, June 2020,  
SLR Consulting



## AGGREGATE OPERATIONS

## 17.0 Visual Impacts Management

A **Landscape and Visual Impact Assessment (AECOM, July 2020)** was prepared to evaluate the potential impact to visual amenity and landscape character for surrounding properties and to establish appropriate mitigation measures to address anticipated visual impacts resulting from aggregate operations within the Scott Pit. The conclusions of the assessment indicate that potential impacts on visual amenity are considered unlikely to occur due to the ability of the undulating wider landscape to absorb minor topographic changes and the presence of screening vegetation.

As illustrated by **Figure 20: Landscaping & Visual Impact Mitigations**, the potential for adverse visual effects will generally be mitigated by Lehigh constructing a landscaped berm around the perimeter of the proposed mining area. Setbacks to each property boundary with existing vegetation preserved therein will also serve to mitigate impacts.

During the operation of the Scott Pit, equipment working within the site is expected to be entirely hidden when viewed from the adjacent public roadways and surrounding properties, in particular as mining will occur several meters below existing grade. However, the Landscape and Visual Impact Assessment identified four (4) residential lots with existing dwellings where views into the mining area might still occur notwithstanding the construction of the perimeter berm. Lehigh is committed to working with each of these owners to provide solutions to identified adverse visual impacts, such as offering additional landscaping within each of the affected properties to ensure their views into the proposed aggregate operations area are appropriately screened.

Additionally, Lehigh will offer a Property Value Protection Program to all landowners within or adjacent to Section 5-26-2-W5M, as illustrated by **Figure 20: Landscaping & Visual Impact Mitigations**. The Program will support homeowners who at the time of selling their home are having issues obtaining fair market value and will cover potential loss in value demonstrated to be a result of the Project.

### DEVELOPMENT POLICIES

<b>Policy 17.1</b>	The developer shall construct a landscaped berm around the perimeter of the proposed mining area as illustrated by Figure 20: Landscaping & Visual Impact Mitigations.
<b>Policy 17.2</b>	The developer will consult with the four (4) identified property owners expected to incur visual impacts as a result of the proposed aggregate operations as described in the Visual and Landscaping Impact Assessment (AECOM, July 2020) at the development permit stage and offer appropriate mitigations which are expected to include additional landscaping to provide enhanced screening within each affected residential parcel.
<b>Policy 17.3</b>	The developer will provide a Property Value Protection Program to all landowners with existing residential dwellings developed on parcels situated within or adjacent to Section 5 26-2-W5M, as illustrated by Figure 20: Landscaping & Visual Impact Mitigations. The Program will support homeowners who at the time of selling their home are having issues obtaining fair market value and will cover potential loss in value demonstrated to be as result of the Project.



**FIGURE 20 | LANDSCAPING & VISUAL IMPACT MITIGATIONS**

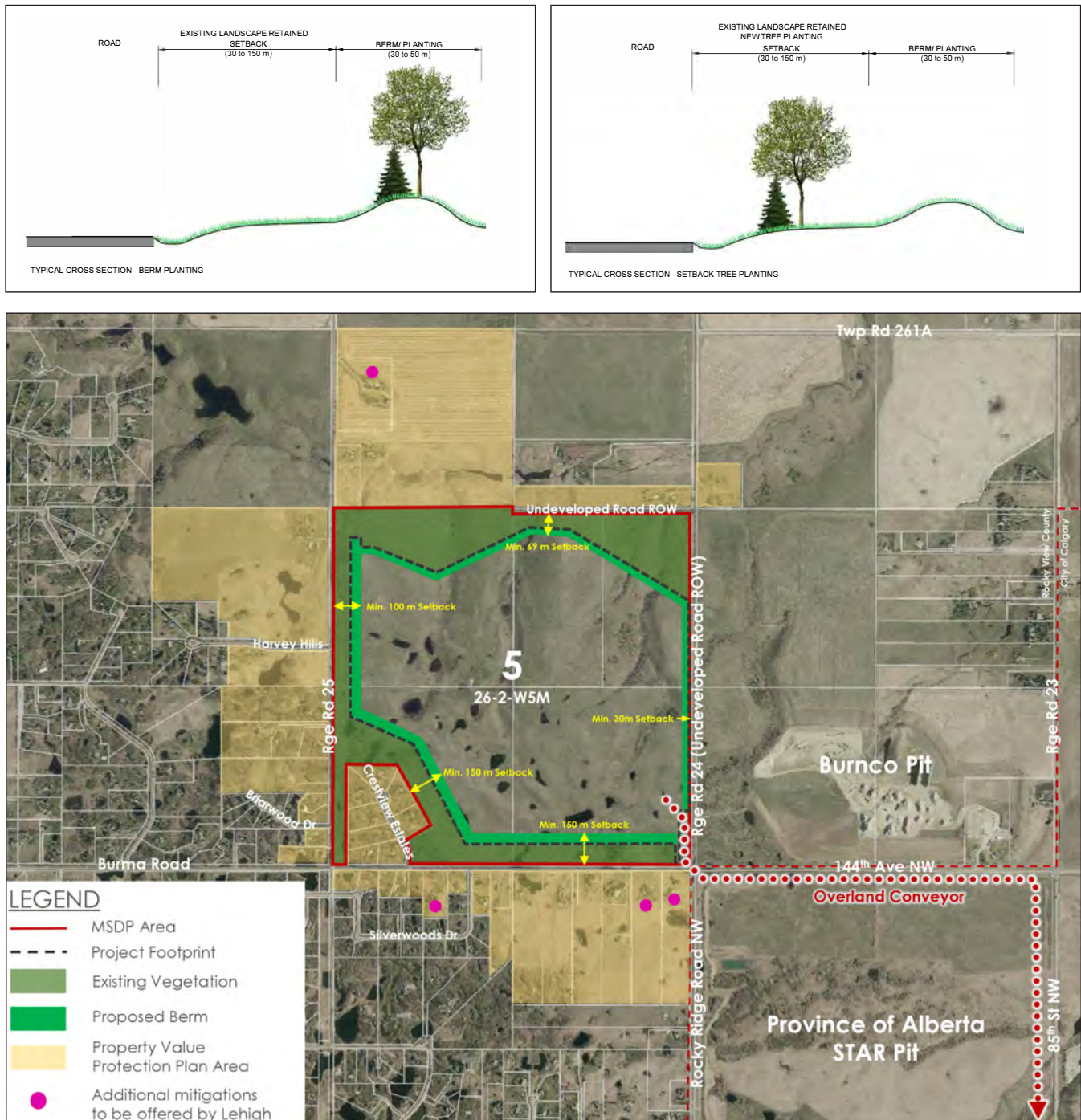


Figure from: Landscape and Visual Impact Assessment, July 2020, AECOM



## AGGREGATE OPERATIONS

## 18.0 Reclamation & Potential End Use Opportunities

As required by the Alberta Code of Practice for Pits, Lehigh will establish a detailed reclamation strategy to reclaim the site post-operations. Lehigh will implement progressive reclamation over the 25 to 30-year operating horizon of the Scott Pit to return the site to an agricultural land use. Securities will be posted by Lehigh to the Province to ensure that reclamation activities are completed in a timely manner upon completion of aggregate operations.

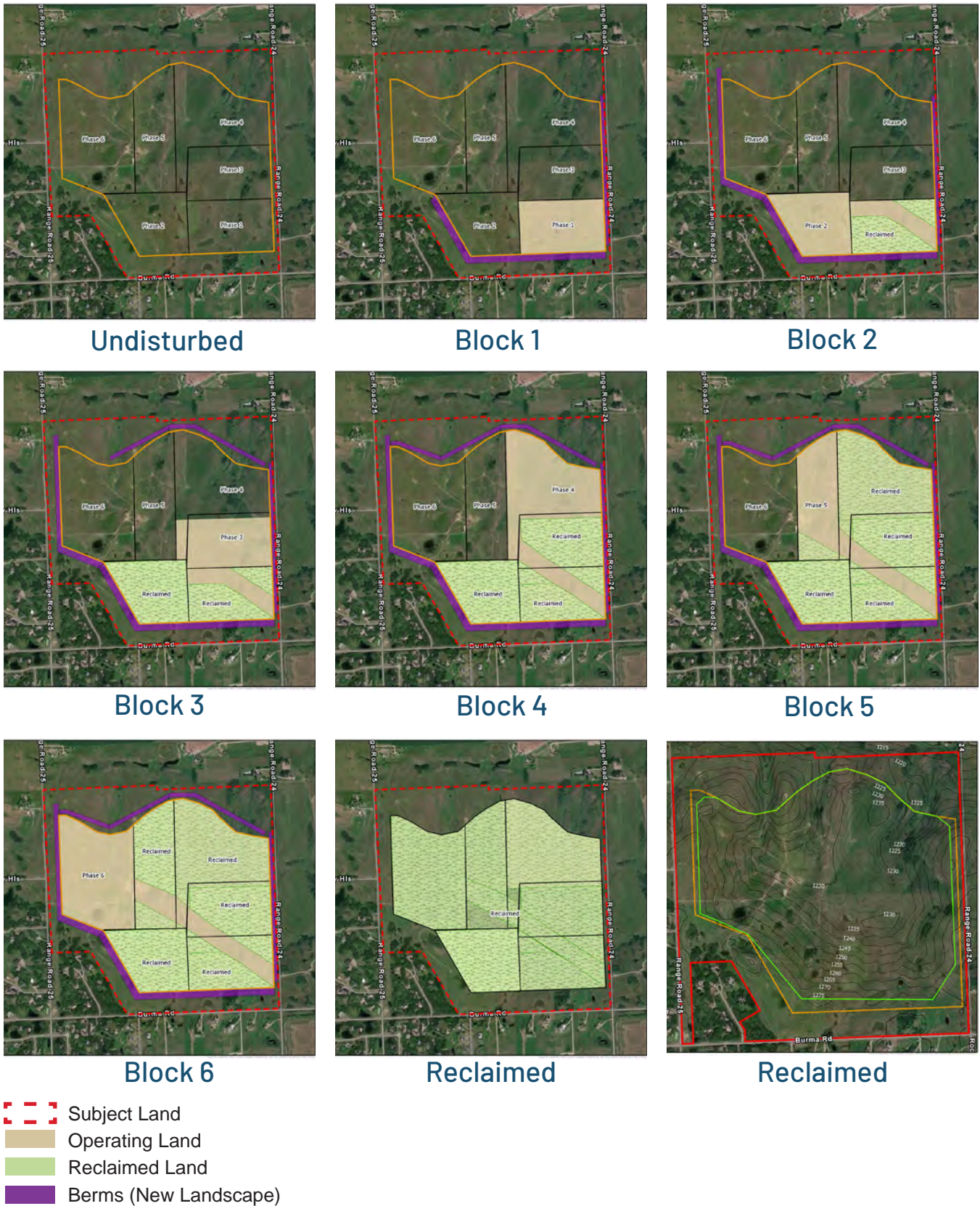
Lehigh acknowledges the strategic location that the Scott Pit may have from a regional planning perspective. As such, Lehigh is committed to working with RVC, the Bearspaw community and other regional stakeholders to engage in planning discussions regarding a future community amenity (i.e. a regional park or stormwater management facility), should there be an interest in establishing a beneficial end use once aggregate operations conclude.

### DEVELOPMENT POLICIES

<b>Policy 18.1</b>	Reclamation within the MSDP area is expected to occur as generally illustrated on Figure 21: Reclamation Strategy.
<b>Policy 18.2</b>	The developer shall provide the County with a copy of all 5-Year Reports as submitted to AEP under the Code of Practice for Pits at each development permit stage including a reclamation update which will highlight areas that have been reclaimed.
<b>Policy 18.3</b>	Reclamation of mined areas shall consist of the replacement of salvaged overburden and topsoil with minimum 3:1 side-slopes around the mined areas.
<b>Policy 18.4</b>	Seeding of disturbed areas shall include an appropriate seed mix to be determined at the development permit stage in consultation with Rocky View County Agricultural Services.
<b>Policy 18.5</b>	The developer is willing to work with RVC, the Bearspaw community and other regional stakeholders should there be an interest in establishing a potential end use for the Scott Property once aggregate operations conclude.



**FIGURE 21 | RECLAMATION STRATEGY**



## AGGREGATE OPERATIONS

## 19.0 Effects Assessment

### 19.1 Biophysical Assessment

A **Biophysical Impact Assessment (BIA)** (AECOM July 2020) was prepared to describe and assess the potential effects that the proposed Scott Pit may have on the existing environment. The assessment was based on a combination of desktop and field survey work to establish a baseline description of existing conditions within the MSDP area relative to identified valued components (VC). Subsequently, the BIA predicted residual effects of the proposed development (i.e., effects that remain after implementation of mitigation measures) and assessed the severity of each residual effect. The following VCs were carried forward in the BIA:

- Vegetation,
- Wildlife and wildlife habitat,
- Surface water, ephemeral water bodies and wetlands, and
- Topography and soils.

Based on the conclusions of the BIA, the severity of predicted residual effects of the proposed Scott Pit within the MSDP are expected to be negligible to moderate. Only residual project effects relating to surface water, ephemeral water bodies and wetlands, were carried forward into the Cumulative Effects Assessment (CEA).

### 19.2 Cumulative Effects Assessment

A **Cumulative Effects Assessment (CEA)** (AECOM 2020#) was prepared to evaluate potential cumulative effects the proposed Scott Pit may create relative to current and foreseeable future physical activities within the northwest portion of the Metropolitan Region. The following Value Components (VCs) were identified to have potential residual project impacts warranting analysis within the CEA:

- Wetlands and Ephemeral water bodies,
- Air quality,
- Visual aesthetics, and
- Property value.

Temporal and spatial boundaries were then selected to determine if the project has the potential to interact with the identified VCs based on known past, present, and future foreseeable physical activities. The report concluded that no residual cumulative effects are anticipated to affect air quality, visual aesthetics, or property value. Wetlands and ephemeral water bodies, the only VC to be carried throughout the CEA, were determined to have minor residual adverse cumulative effects, which did not warrant further development for cumulative effects specific follow-up or monitoring programs.

## 20.0 Economic Analysis

An **Economic Analysis of the Scott Pit (Nichols Applied Management, July 2020)** was prepared in support of this MDSP to undertake:

- A Market Analysis;
- An Economic Analysis; and
- A Fiscal Impact Analysis.

A summary of each of these analyses is including in the following sections.

### 20.1 Market Analysis

The remaining reserves in major operating gravel pits within a 50-km radius of Calgary's core are estimated to be approximately 211M tonnes. The forecasted demand for gravel in the Calgary Census Metropolitan Area (CMA) between 2020 and 2050 is estimated to be between 522M and 833M tonnes. Given the remaining reserves from operating projects and the forecasted demand for gravel in the Region, the current reserves are expected to be depleted sometime between 2028-2033.

As such, the Region will require additional aggregate operations to supply Regional demand and avoid the need to import product from outside the Region under high transportation costs.

### 20.2 Economic Analysis

Throughout its 3-year construction phase (including the planning, permitting and engineering phase) and 25-year operation phase, the Project will create positive economic effects on RVC and surrounding communities in the Calgary Region.

Over the nearly 3-year construction period, the Scott Pitt is expected to support a total (direct, indirect, and induced) of:

- \$43.4 million in GDP,
- \$27.9 million in labour income, and
- 367 jobs.

An average year of operations of the Project is expected to support a total (direct, indirect, and induced) of:

- \$7.9 million in GDP,
- \$5.3 million in labour income, and
- 71 jobs.

### 20.3 Fiscal Impact Analysis

Throughout the Project's operations phase it will contribute to County revenues through municipal taxes and the Community Aggregate Levy (CAP). The total expected financial contribution of the Project to RVC is estimated to be \$21.35 million or approximately \$854,000 annually. This includes:

- \$1,350,000 in municipal tax, and
- \$20,000,000 in CAP Levy payments.



# Section D: Stakeholder Consultation

## 21.0 Community Engagement Summary

A comprehensive Communications and Engagement program was implemented in support of the Scott Pit MSDP to ensure stakeholders were provided access to accurate and timely information with opportunities to provide input.

The approach for the Scott Property focused on informing and consulting with the public to:

- Ensure all relevant stakeholders were identified and provided notification of the Project;
- Share ongoing relevant information about the Project in an objective and timely manner;
- Generate awareness about the Project and provide updates through proactive communications;
- Gather feedback on aspects of the project that are open for input, listen to and acknowledge perspectives, and will highlight how comments were, or were not, included in the final concept;
- Provide contact information throughout the Project and provide responses to project-related questions in a clear and timely manner.
- Ensure the engagement process was monitored and measured, and results were shared as needed.

### 21.1 Engagement Process

Throughout the entirety of the public engagement program, the following tools were used to facilitate communication and public participation:

- A dedicated project website ([www.scottpropertyproject.com](http://www.scottpropertyproject.com));
- Two (2) online surveys (with an option to receive hard copies);
- Four (4) mailings to residents within a 2 km radius of the subject site;
- Seven (7) email blasts to project subscribers and key stakeholders;
- Contact information for the project team including an email address, mailing address and a toll-free telephone line; and
- Two rounds of public engagement opportunities, including:
  - Round one: two public open house sessions and an online survey;
  - Round two: a 3-week online engagement program in lieu of an in-person event, with an option to receive hard copy materials (due to restrictions caused by COVID-19).

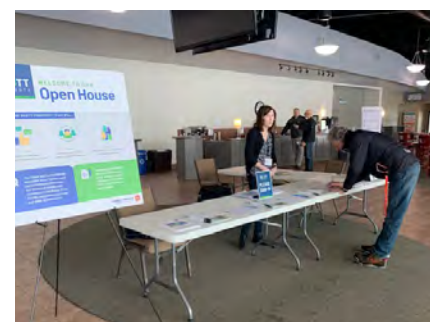
## February 2020 Engagement Event

Two (2) public open house sessions were held at the RockPointe Church on Saturday, February 8, 2020 from 10 AM to 12 PM and 1 PM to 3 PM. The objective of the open houses was to introduce the project team, share preliminary information about the project, listen to and collect feedback and respond to questions and comments from the public. The events were promoted in the following ways:

- Invitations were mailed to residences and businesses within a 2 km radius of the Project boundary about two weeks in advance of the public engagement sessions (mailings were officially sent out on January 20, 2020).
- Email invitations were sent to those who signed up through the project website to receive updates on January 24, 2020.
- A half-page newspaper advertisement was published in Rocky View Weekly for three weeks leading up to the events (circulation weeks of January 21 and 28, and February 4, 2020).
- An update was posted to the project website landing page on January 23, 2020.
- Email invitations were sent to additional stakeholders (including RVC Council and members of administration, representatives from the City of Calgary, and Bearspaw/Glendale Community Associations, among others) on January 22, 2020.

Information boards which included details about the Project scope, relevant regulatory policy, the preliminary mining and operations plans including reclamation, technical studies and preliminary mitigation measures were posted around the room to provide information for review and comment. Members of the team, including representatives from Lehigh Hanson, AECOM, SLR Consulting and B&A Planning Group, were present to discuss questions, address concerns, and collect feedback with community members.

- 80 people attended
- 14 feedback forms were submitted
- 19 online surveys were completed
- 80 comments were made on interactive display boards



## STAKEHOLDER CONSULTATION

## June-July 2020 Engagement Event

A second public engagement program, primarily online, was held from June 15 – July 7, 2020. Due to public health orders restricting public gatherings to prevent the spread of COVID-19, the engagement program was founded on flexibility, accessibility, and responsiveness to best accommodate the public's ability to participate. The objective of this round of engagement was to provide updated project details related to the mine plan and technical studies and gather final questions and comments about the project.

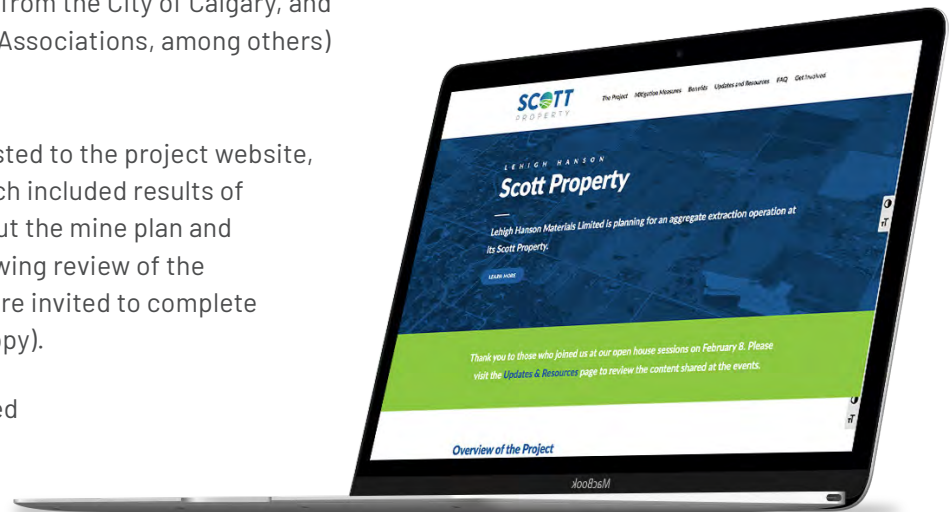
The program was promoted in the following ways:

- The project website was updated to indicate the timeline for the engagement;
- Two (2) rounds of mailings to residents within a 2 km radius, in April and June 2020;
- A half-page newspaper advertisement was published in Rocky View Weekly for three weeks leading up to and during the online program; and
- Three (3) email blasts were sent to subscribers and key stakeholders (including RVC Council and members of administration, representatives from the City of Calgary, and Bearspaw/Glendale Community Associations, among others) starting in April.



A public information package was posted to the project website, and made available by hard copy, which included results of technical studies, further details about the mine plan and proposed mitigation measures. Following review of the information package, participants were invited to complete the online survey (or send in a hard copy).

- 96 online surveys were completed
- 8 hard copy surveys were completed
- From June 1 – July 8:
  - » 185 users visited the website 239 times
  - » 453 unique page visits were made
  - » 227 visits were made to the 'Get Involved' tab which housed the engagement materials





## 21.2 Primary Engagement Findings

Of the total 137 feedback forms and survey submissions made over the course of the project, the following main themes emerged:

### 1. Not complimentary/opposed to project

Some stated that aggregate operations are not complimentary to adjacent residential communities and that Lehigh should explore other locations for extraction. In addition, some respondents have said they are opposed to the Project completely and that no changes to the proposed mining plan, mitigation measures or monitoring programs could make the Project acceptable.

**Lehigh's Response:** *Aggregates are finite resources that only exist where they naturally occur. In some cases, this means high-quality deposits are situated near residential communities. The Scott Property deposit is situated near a major metropolitan area that requires aggregates to support forecasted growth. In addition, close-to-market aggregate sources mean lower costs for consumers, and reduced greenhouse gas emissions and truck traffic. Lehigh believes that with appropriate performance standards and monitoring programs in place, the Scott Pit can operate as a good residential neighbour. Regulatory requirements will be met or exceeded to ensure the best possible project in the area. Lehigh recognizes the perspective of the community and appreciates the time invested by residents to provide input. While such feedback has been noted, Lehigh believes it is important to progress this application for the Project that is focused on performance standards.*

### 2. Noise

Some statements noted concerns about the potential noise generated by the Project, particularly from extraction methods, construction, traffic, and the proposed conveyor system.

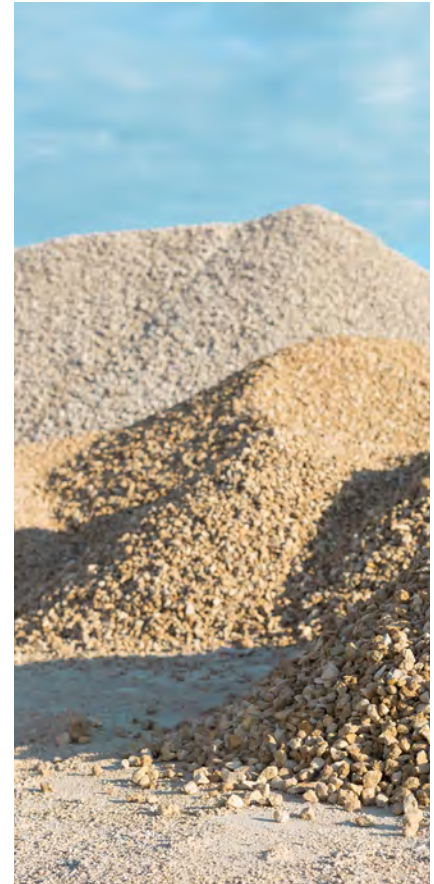
**Lehigh's Response:** *Lehigh completed an Acoustic Assessment to ensure all stages and components of the Project meet or exceed RVC and Provincial noise guidelines. This included ambient sound monitoring on the property as close to neighbouring homes as possible, sound modeling following international standards, incorporating meteorological and topographic effects and evaluating potential project impacts and proposed mitigation measures to establish their effectiveness. The mitigation plan for the Project has been designed with a 5dB compliance margin to cover absolute worst-case situations. Noise nuisance due to Project operations is expected to be minimal at the nearest residences. If the Project proceeds, noise levels will be continuously monitored during operations using sophisticated sensors at identified key receptors to ensure regulatory compliance.*

## STAKEHOLDER CONSULTATION

### 3. Air quality, Health and Safety

Some comments were made about potential dust, and general impacts to air quality and health that could be caused by the proposed project.

**Lehigh's Response:** Lehigh completed an Air Dispersion Modelling Assessment to evaluate and model the potential project impacts inclusive of the proposed mitigation measures to establish their effectiveness. All modeling and assessments were completed as per provincial standards and included background measurements from the Calgary Regional Airshed Zone's Calgary Northwest station. Modeling was conducted to predict air quality from project emissions. Scenarios accounted for maximum predicted concentrations from other regional aggregate pits, considered both winter and summer conditions, and combined baseline and peak operations predictions to estimate cumulative effects. If the Project proceeds, air quality will be continuously monitored during operations using sophisticated sensors at identified receptors to compare with AAAQOs. In addition, for those parameters which do not have a specified criterion in the Alberta guidelines such as silica which was commonly noted by the community, Lehigh will use guidelines from Ontario and include measurements as part of the monitoring program.



## 22.0 Lehigh's Key Operating Commitments

Lehigh is committed to developing and operating a world-class aggregate extraction facility that is sensitive to the concerns of its surrounding neighbors and local stakeholders. To this end, the following table summarizes their commitments to address the expressed concerns in both the initial design, and the continued development of the aggregate operation.

EXPRESSED CONCERNS		LEHIGH'S KEY OPERATING COMMITMENTS
1	Habitat & wildlife	<ul style="list-style-type: none"> <li>• Limit disturbances within the MSDP area during migratory bird nesting season</li> <li>• Limit open excavation areas to maximum of 60 ac per development phase</li> <li>• Implement ongoing progressive reclamation activities throughout the anticipated 25 to 30-year lifespan of pit operations</li> </ul>
2	Transportation	<ul style="list-style-type: none"> <li>• Implement an overland conveyor to transport aggregate materials from Scott Pit to Lehigh's Spy Hill processing facility to eliminate need for aggregate truck traffic on local/regional roadways</li> <li>• Contribute transportation levies to RVC as per the adopted Regional Transportation Offsite Levy Bylaw</li> <li>• Contribute CAP Levy as per the adopted Community Aggregate Payment Levy Bylaw</li> </ul>
3	Groundwater	<ul style="list-style-type: none"> <li>• Adhere to Alberta's <i>Code of Practice for Pits</i> requirements</li> <li>• Implement ongoing groundwater monitoring and regularly post results on a project website</li> <li>• Provide an indemnification agreement to any landowner who requests it within the limits shown in Figure 17, a portion of the hydrogeological study area</li> </ul>
4	Air Quality	<ul style="list-style-type: none"> <li>• Apply water and/or calcium chloride upon all internal equipment access routes</li> <li>• Vegetate overburden stockpiles and disturbance to minimize wind erosion</li> <li>• Shroud the preliminary processing facility in the pit</li> <li>• Adhere to AAAQO objectives</li> <li>• Implement ongoing air quality monitoring, including silica, and post results regularly on a project website</li> </ul>



## STAKEHOLDER CONSULTATION

5	Noise mitigation	<ul style="list-style-type: none"> <li>• Implement reduced operating hours</li> <li>• Implement broadband backup alarms on mobile equipment</li> <li>• Shroud the processing facility in the pit</li> <li>• Adhere to the RVC Noise Control Bylaw and maintain a limit 10 dB below City of Calgary daytime limits of 65 dB</li> <li>• Implement ongoing noise monitoring program and post results on project website regularly</li> </ul>
6	Visual Impacts	<ul style="list-style-type: none"> <li>• Install landscaped berms around the perimeter of MSDP area</li> <li>• Implement dark sky lighting techniques within MSDP area</li> <li>• All pit processing equipment will remain below grade when viewed from adjacent properties</li> <li>• Implement a property value protection plan for all residences within or adjacent to Section 5, and those with direct views into the project area post-mitigation</li> </ul>
7	Maintain respectful aggregate operations	<ul style="list-style-type: none"> <li>• Limit open excavation areas to maximum of 24.3 ha (60 ac) per development phase</li> <li>• Reduced operating hours</li> <li>• Implement aggregate operations via a phased development permit process</li> <li>• Implement progressive reclamation throughout the lifespan of the project</li> <li>• Implement monitoring programs for groundwater, air quality and noise and regularly post results on a project website</li> </ul>
8	Corporate Communications & Ongoing Community Relations	<ul style="list-style-type: none"> <li>• Establish a Communications management protocol &amp; procedure process and commit to addressing resident/stakeholder concerns on a timely basis</li> <li>• Provide dedicated Lehigh contact information to all landowners within 2 km of the MSDP area</li> <li>• Invite neighbouring landowners to an annual Community Information Session to share current and new information about the project</li> <li>• Distribute a project update to the landowners within 2 km of the MSDP area or by request via a semi-annual newsletter</li> </ul>

9	<b>Community Benefits</b>	<ul style="list-style-type: none"> <li>• Work with the Bearspaw community, RVC and other Metropolitan Region stakeholders to collaborate on end use planning that provides the greatest value to the community</li> <li>• Implement an overland conveyor system from Scott Pit to Lehigh's Spy Hill processing facility to eliminate need for additional truck traffic on local/regional roads – thereby reducing greenhouse gas emissions and improving public safety</li> <li>• Contribute transportation levies as per adopted Regional Transportation Offsite Levy Bylaw</li> <li>• Contribute CAP Levy as per the adopted Community Aggregate Payment Levy Bylaw</li> <li>• Seek opportunities to provide support to Bearspaw regional recreation projects, or other community supportive programs</li> <li>• Providing a positive fiscal contribution to the County and the Region through GDP, job creation, and other direct and indirect benefits.</li> </ul>
10	<b>Regional Collaboration</b>	<ul style="list-style-type: none"> <li>• Work with City of Calgary to ensure development considerations resulting from prolonged operations at Spy Hill processing facility are appropriately addressed (i.e. new/updated development permit, potential transportation improvements, recreation contributions, etc.)</li> <li>• Demonstrate leadership with a view of fostering collaboration between RVC and Calgary aimed at promoting a regional benefit as a result of this Project</li> </ul>

# Section E: Implementation

## 23.0 Land Use Amendment

The MSDP area is proposed to be designated Direct Control (DC) District which will prescribe general and specific development requirements to be assigned at each phase of the proposed aggregate operation via the development permit process. The proposed prescriptions and regulations expected to be included within the Direct Control District will address matters such as:

- Hours of operation;
- Mining sequencing & staging;
- Development permit renewal intervals;
- Commitments for Lehigh to adhere to development considerations such as:
  - » Mining development setbacks;
  - » Landscaping, lighting, and signage requirements;
  - » Noise, air quality and groundwater monitoring & reporting requirements;
- Special provisions to acknowledge potential exceedances of maximum noise thresholds during the initial phase of aggregate operations until such time mining activities drop below the existing grade of the MSDP area;
- Commitments for certain updated technical reporting to be provided at the development permit stage; and
- Listed uses that may be permitted to coincide with aggregate operations.

### DEVELOPMENT POLICIES

<b>Policy 23.1</b>	The subject lands will be designated Direct Control District in accordance with the RVC Land Use Bylaw (C-8000-2020).
<b>Policy 23.2</b>	The regulations of the Direct Control District shall ensure the developer's key operational commitments are implemented as described in Section 22.0 of this Plan.



## 24.0 Development Permit Process

Prior to aggregate operations proceeding within each anticipated mining phase, Lehigh will submit a development permit application to address specific matters such as:

- Site Plan;
- Operations & Management Plan;
- Mining & Excavation Plan;
- Site-Specific Stormwater Management Plan;
- Sediment & Erosion Control Plan;
- Erosion & Sediment Control Plan;
- Landscaping & Screening Plan;
- Lighting Plan;
- Noise Monitoring Strategy;
- Air Quality Monitoring Strategy;
- Reclamation Plan;
- Summary of current reporting relative to the noise, air quality and groundwater monitoring strategy;
- Public and Stakeholder Communications Plan;
- Construction Management Plan; and
- Weed Management Plan.

### DEVELOPMENT POLICIES

#### Policy 24.1

The implementation of the policies of this MSDP shall occur in multiple phases in accordance with RVC's development permit process.

## IMPLEMENTATION

## 25.0 Provincial Approval Process

### 25.1 Alberta Code of Practice for Pits

Lehigh is preparing an application for Alberta Environment and Parks (AEP) in accordance with a *Code of Practice for Pits*.

The Code of Practice for Pits requires an aggregate operator to hold a registration from the Province to perform certain duties during the life of the pit. Examples of the types of information or activities required for ongoing compliance with a Code of Practice for Pits registration are as follows:

- Pit Water Monitoring
- Landowner Contact information
- 5-Year Reports
- Reclamation Updates
- Activities Plan
- Full Cost Security Calculation
- Extraction Setbacks
- Depth of Excavation
- Wildlife Considerations
- End land uses
- Sequence of Operations
- Soil Conservation
- Drainage
- Soil Replacement
- Re-vegetation
- Weed Control

#### DEVELOPMENT POLICIES

**Policy 25.1.1**

No aggregate operations shall occur within the MSDP area until the developer has secured an approval from Alberta Environment and Parks (AEP) in accordance with the requirements of the Code of Practice for Pits.

### 25.2 Provincial Water Act Approvals

AEP is responsible for provincial approvals under the Water Act. Under the Water Act, a Wetland Assessment Impact Report (WAIR) is required in areas where wetlands may be impacted by development. The field studies and reports completed for the MSDP will be adapted to support the Water Act application.

The proposed Scott Pit is expected to require partial or full removal of most the identified wetlands within the MSDP area. Concurrent with a development permit application to RVC, Lehigh will be required to submit application to the Province under the Water Act.

#### DEVELOPMENT POLICIES

**Policy 25.2.1**

The developer shall submit application to the Province under the Water Act in accordance with the Provincial Wetland Policy prior to proceeding with wetland disturbances within the MSDP area.

## 26.0 Municipal Policy Framework

### 26.1 Calgary / Rocky View County Intermunicipal Development Plan (IDP), 2012

The MSDP area is located within RVC, just northwest of the City of Calgary, and is within the Rocky View / Calgary Intermunicipal Development Plan (IDP) area. As such, this MSDP is subject to the intermunicipal referral and communication policies of the IDP as well as the Section 12 policies governing aggregate extraction.

Section 12 of the IDP indicates that RVC and Calgary will seek to cooperate with respect to aggregate extraction activities within the IDP plan area. The shared objective is that ***“Aggregate resources are important to our municipalities. Both municipalities wish to facilitate intermunicipal communication regarding aggregate extraction operations and planning and development proposals in the vicinity” (p.29).***

Policies within this section include requirements for both municipalities to coordinate the planning of major haul routes; to consider the impacts of new operations on existing development in both municipalities; and, in the event that an operation generates negative impacts on the adjacent municipality, both municipalities should discuss impacts, enforcement and standards of abatement.

### 26.2 The County Plan, 2013

The Rocky View County Plan (C-7280-2013) (‘the Municipal Development Plan’) provides a guide for future development in the County to achieve an overarching vision of an ***“inviting, thriving and sustainable county that balances agriculture with diverse residential, recreational and business opportunities” (p.7).*** Section 15 of the County Plan details goals, policies and actions related to natural resources, including aggregates.

Section 15 of the County Plan states that ***“natural resource extraction is an important land use in the County that satisfies local, regional, and provincial resource needs... Aggregate resources are important for the construction of roads, buildings, and other infrastructure” (p.66).*** The overarching goals of this section are to ***“support the extraction of natural resources in a manner that balances the needs of residents, industry, and society”; and to “support the environmentally responsible management and extraction of natural resources” (p.66).***

The aggregate policies detailed in the County Plan are primarily related to minimizing the potential adverse impacts of aggregate resource extraction through communication and collaboration with local area residents and impacted municipalities. In addition, Policy 15.6 indicates that ***“until such time as a County aggregate extraction policy is prepared, applications for aggregate extraction shall prepare a master site development plan that addresses the development review criteria identified in Section 29” (p.67).*** Further guidance on the preparation of an aggregate master site development plan can be found in Appendix C, Section 4 of the County Plan.

As RVC has not prepared an aggregate extraction policy, this MSDP has been prepared in accordance with the County Plan requirements. It is intended to comprehensively address the policy and technical requirements that provide Council, administration, relevant stakeholders and area residents with a sound understanding of the merits of the proposal.

At the time of this MSDP development, the County Plan is undergoing a comprehensive update; however, this MSDP was composed utilizing the 2013 statutory planning framework.



## IMPLEMENTATION

### 26.3 Bearspaw Area Structure Plan (BASP), 1994

The Scott Property is located within the Bearspaw Area Structure Plan (BASP) adopted by the County via Bylaw C-4129-93. The BASP provides a detailed policy framework for land use and development within the Bearspaw community. The current BASP in effect was adopted in 1994 and is presently undergoing a comprehensive review and update by RVC. At the time of writing this MSDP, a new DRAFT BASP had not yet been released or adopted by Council. As such, this MSDP refers to the current BASP's statutory planning policy framework.

The BASP's **Figure 4: Distribution of Natural Resource Aggregates** illustrates the location of gravel deposits within the Bearspaw area and is reproduced within this MSDP as Figure 4: Natural Resource Aggregates & Future Land Use Scenario – Bearspaw Area Structure Plan. As illustrated, the MSDP area contains one of the final remaining locations within the northern portion of the Metropolitan Region with a significant aggregate deposit and limited fragmentation and/or surface disturbance that would constrain the extraction of the resource. Policy 8.3.14 of the BASP directs that ***“Areas where there are indications of a high potential for natural resource extraction, should be protected for such purposes within the Plan Area” (p.27).***

Figure 6 of the BASP identifies potential steep slope areas and potential high-water table areas within the Scott property. These potential environmental concerns have been carefully studied in site-specific technical reports prepared for this MSDP application and incorporated into the planning for the proposed operations detailed in this MSDP.

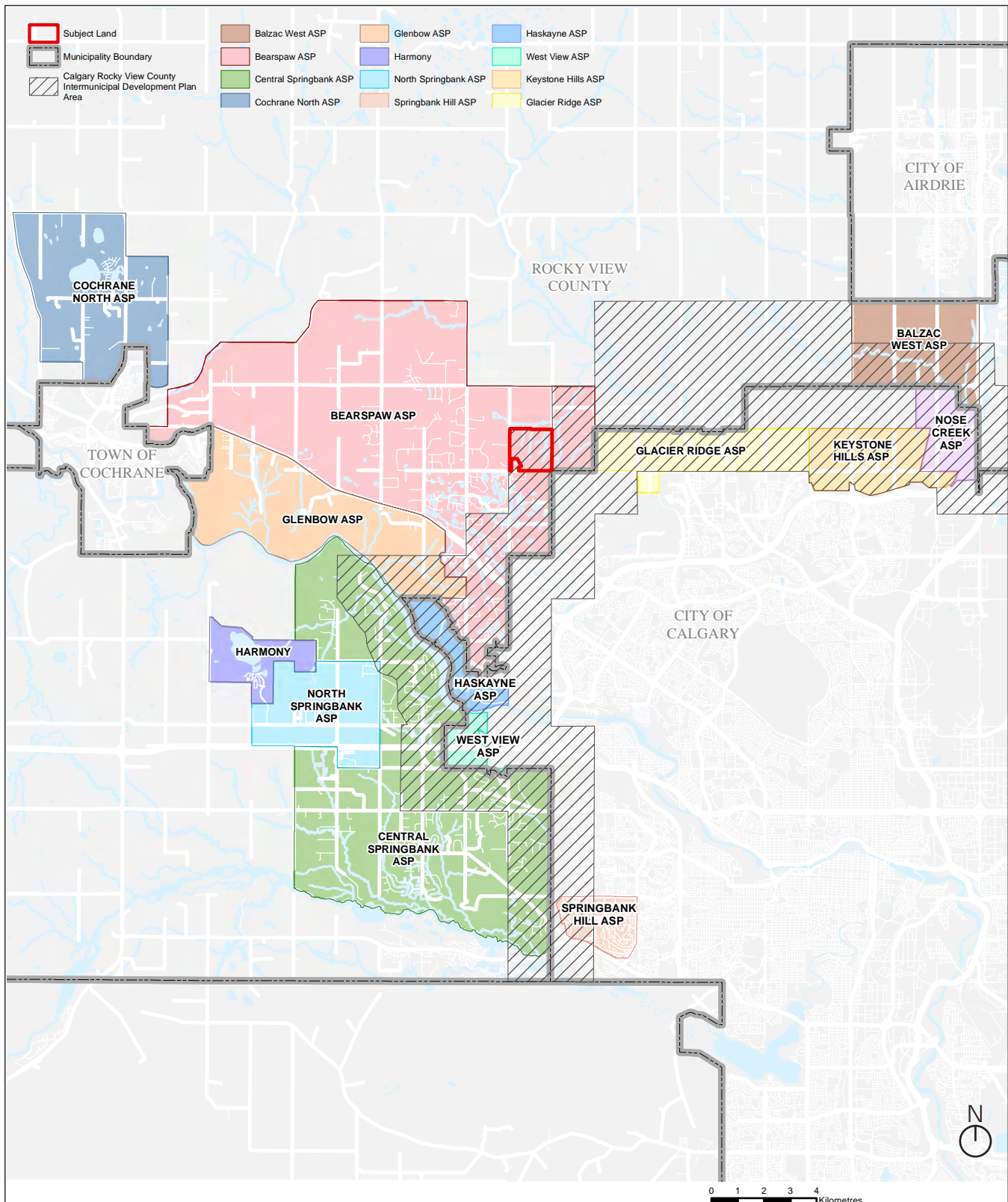
The BASP indicates that natural resource extractive industries, where considered appropriate by Council, shall be accommodated in a Direct Control (DC) District that should contain special guidelines for the extraction activity. The BASP contains a list of information requirements that a proponent may be required to provide and indicates that an amendment to the BASP's Future Land Use Scenario may be required where Council approves an aggregate extraction operation. If this MSDP and concurrent LUA are approved by Council, an amendment to the BASP's Future Land Use Scenario may be required as the lands are currently forecasted for country residential development.

### 26.4 Land Use Bylaw (C-4841-97)

As illustrated by **Figure 3: Existing Land Use**, the Project area are presently designated Agriculture, General District (A-GEN) in accordance with the RVC Land Use Bylaw C-8000-2020.

In compliance with the County Plan and Bearspaw ASP, a Land Use Amendment (LUA) application has been submitted concurrently with this MSDP to redesignate the subject land from Agriculture, General District (A-GEN) to Direct Control District (DC) with specific regulations to prescribe the proposed aggregate operation.

FIGURE 22 | MUNICIPAL POLICY CONTEXT



## IMPLEMENTATION

## 27.0 Intermunicipal Collaboration

Lehigh acknowledges that the transport of aggregates from the Scott Pit to the Spy Hill processing facility in the City of Calgary via an overland conveyor will dramatically reduce the potential for adverse effects impacts to the Bearspaw community and the County as a whole. Lehigh also recognizes that implementation of this strategic investment will not only require approval from the County, it will also require approvals from the City of Calgary and the Province. As such, Lehigh is prepared to collaborate with the County, the City and the Province to ensure that all required approvals are appropriately secured in support of this project.

### DEVELOPMENT POLICIES

**Policy 27.1**

The developer shall collaborate with the County, the City and the Province to secure all required approvals to implement the overland conveyor proposed in this MSDP.





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## Supporting Technical Documents

**(submitted under separate cover)**

The following technical reports have been prepared in support of this Master Site Development Plan:

- Historical Resources Impact Mitigation Reports #1 & #2, Ghostpine Environmental Services, November 2013
- Phase 1 Environmental Site Assessment, Millennium EMS Solutions Ltd., July 2008
- Biophysical Impact Assessment, AECOM, July 2020
- Vegetation and Rare Plants Report, Lacuna Ecological, June 2020
- Soils Technical Assessment, AECOM, June 2020
- Wetlands Technical Assessment, AECOM, June 2020
- Wildlife Technical Assessment, AECOM, June 2020
- Hydrogeological Impact Assessment, AECOM, July 2020
- Conceptual Level Stormwater Management Report, AECOM, July 2020
- Traffic Analysis, AECOM, June 2020
- Landscape and Visual Impact Assessment, AECOM, July 2020
- Acoustic Assessment, SLR Consulting, June 2020
- Air Dispersion Modelling Assessment, AECOM, June 2020
- Cumulative Effects Assessment, AECOM, July 2020
- Economic Analysis of the Scott Pit, Nichols Applied Management, July 2020

