

**COUNTY OF VERMILION RIVER NO. 24
PROVINCE OF ALBERTA
BY-LAW NO. 05-26**

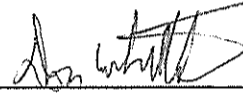
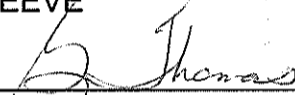
A BY-LAW of the County of Vermilion River No. 24 in the Province of Alberta, to adopt the Devonia Lake West Central Area Structure Plan.

WHEREAS the Council of the County of Vermilion River No. 24 deems it to be in the public interest to adopt the Devonia Lake West Central Area Structure Plan;

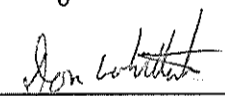

NOW THEREFORE, be it resolved that the Council of the County of Vermilion River No. 24, duly assembled, hereby enacts that the Devonia Lake West Central Area Structure Plan, being Schedule "A" attached to and forming part of this By-Law, be adopted.

THIS BY-LAW shall take effect on the date of the third reading.

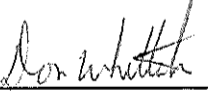

READ A FIRST TIME THIS 13 **DAY OF** December, **A.D. 200**5


REEVE

COUNTY ADMINISTRATOR

READ A SECOND TIME THIS 2 **DAY OF** May, **A.D. 200**6


REEVE

COUNTY ADMINISTRATOR

READ A THIRD TIME AND FINALLY PASSED THIS 2
DAY OF May, **A.D. 200**6


REEVE

COUNTY ADMINISTRATOR

LakeView Estates Table of Contents

- A) Development Concept & Servicing Plan
 - Transportation considerations
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- E) Natural Features
- F) Adjacent Land Uses
- G) Fire Protection
- H) School District
- I) Phase 1 Environmental Survey
- J) Storm Water Management Plan / Topographical Map
- K) Staging Plan/Signage

Development Concept and Servicing Plan

Based on the residents that occupy existing Multi-Parcel County Residential subdivisions, it is expected that this development with its close proximity to Lloydminster will also function as a "bedroom" community for the city.

Each land parcel will be used for a single family residential site. The development concept will act to restrict business, commercial or mixed use operations on the sites.

The conceptual diagram of the site indicates:

- 1) Land set aside as municipal reserve.
- 2) Environmental reserve along the lake shore.
- 3) The "U" shaped road pattern with multiple access to RR20. This feature gives emergency access should it be required.
- 4) Ponds to prevent silt from accessing the lake.

Transportation Considerations

With reference to the attached maps, the majority of the routing will be to Highway #16 or Highway #619 via RR20. Indications are RR20 may be paved in 2006 pending budget approvals (from Highway #16 to Highway #619)

With the future implementation of the Highway #16 bypass, the traffic patterns will change. The majority of residents will access the bypass Highway via an interchange on TWP RD 494. They would then come into Lloydminster from the South on Highway #17.

Water

Each home will be serviced via private wells with the cost and location being up to the home owner. Consulting with McAllister Water Well Drilling, 4 wells are adjacent to the property. They range in depth from 170 feet to 210 feet. These wells take from the same aquifer and depth differences are explained because of varying topography. They indicate volumes were of no concerns and quality was much better than experienced when compared to areas North of Highway #16. George McAllister's comment was "the poorest water in this area is better than the best water found North of Blackfoot".

Power / Phone

Each acreage lot will be serviced from Atco Power and Telus via either underground / overhead service. The service to the property line will be the responsibility of the developer.

Natural Gas

Each site will have natural gas at the edge of it, with the supplier being the County of Vermilion River's Utility Company.

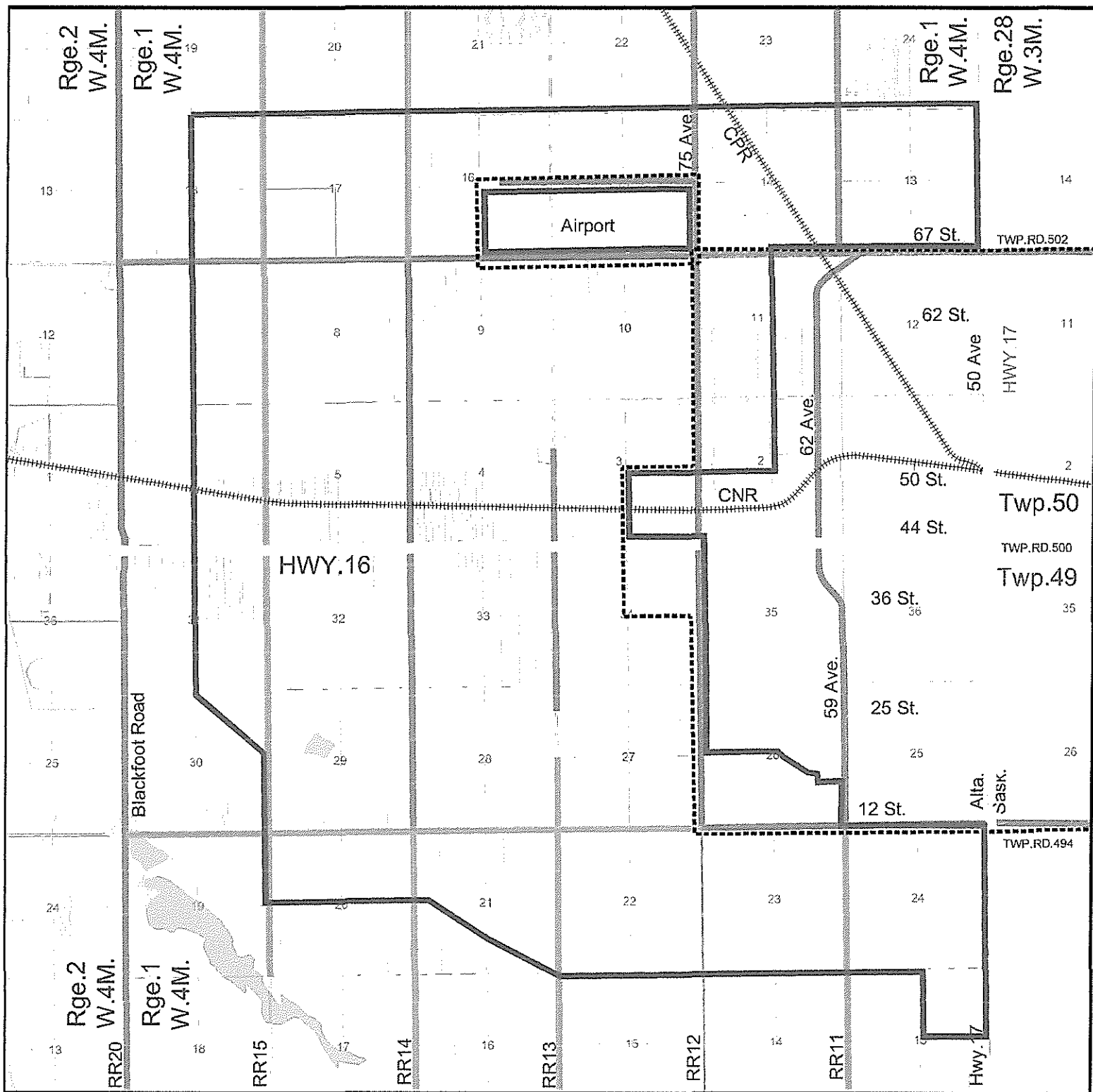
Internal Road Structure

The construction will meet the specifications of the County, which can generally be described as a 1m grade with an 8.0-8.5m top. Completion will be a cold roll asphalt surface.

Sewage System

The sewage systems will be in accordance to the guidelines set out by the province. None of the properties is large enough for pump out systems. It is expected that systems will consist of underground fields or a haul out process.

Each acreage owner will be responsible for their own system.



Legend

- Provincial Highway (Divided)
- Provincial Highway (Undivided)
- Main Road (Paved)
- Oiled Gravel (Dust Control)
- Gravel
- IDP Boundary

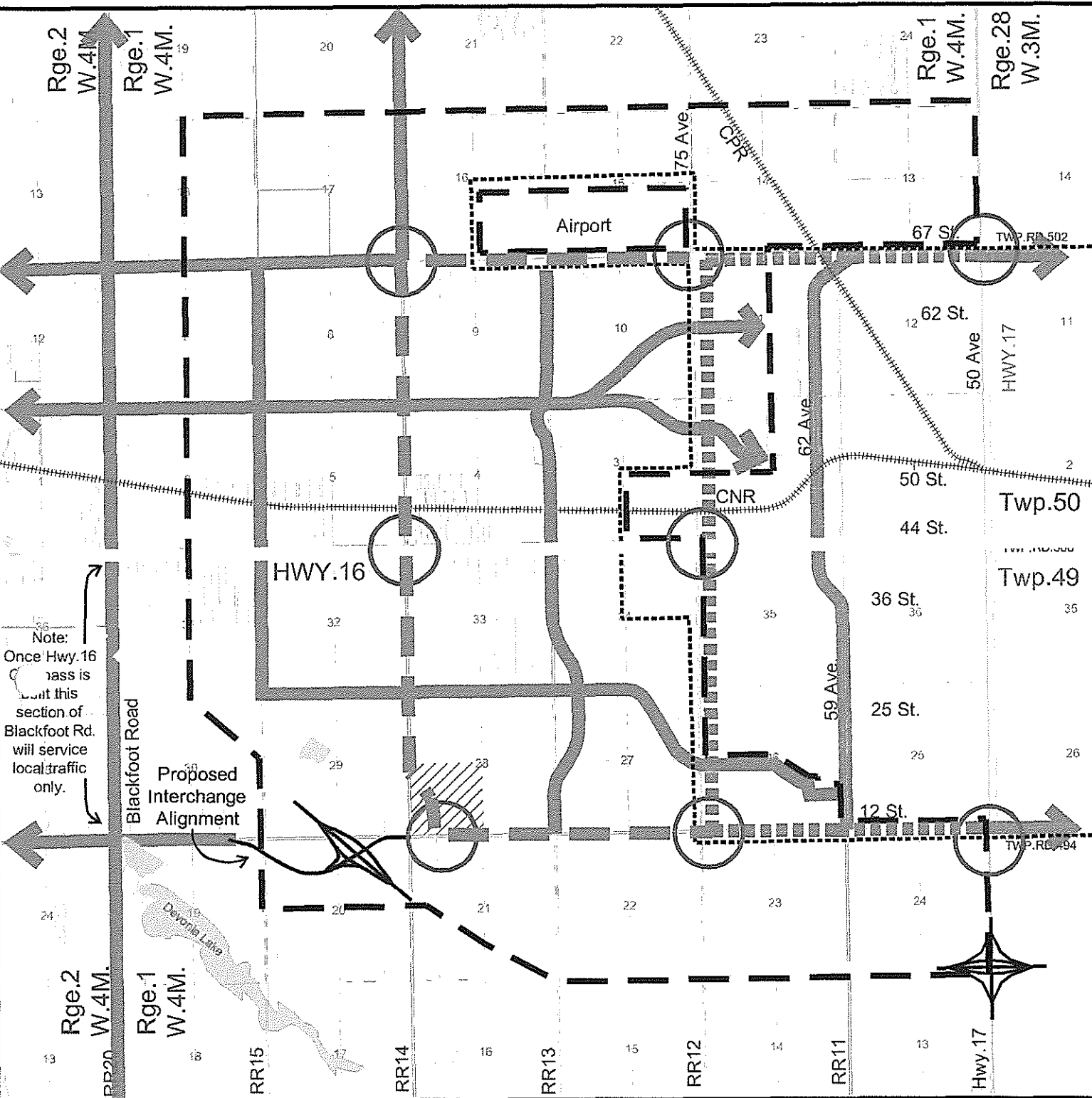
**Existing Road System
Map # 5**

Vermilion River /
Lloydminster IDP

MATRIX PLANNING

G.T. Hofmann & Associates

Scale - 1:60 000



Note:
Once Hwy. 16
bypass is
built this
section of
Blackfoot Rd.
will service
local traffic
only.

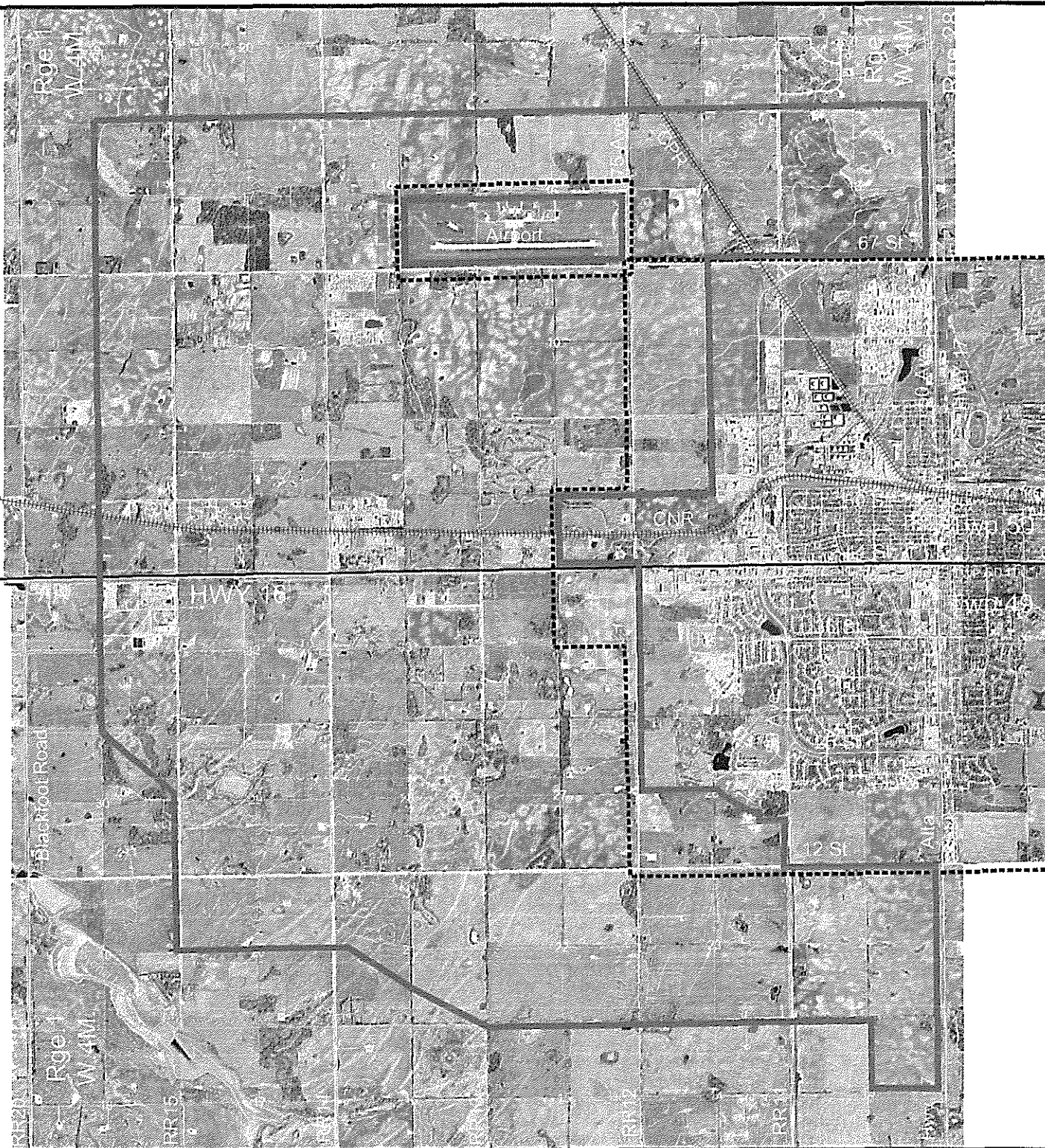
Legend

- Provincial Highway
- Highway 16 Bypass
- Future Arterial
- Highway 17 Bypass
- Long Term Highway 17 Bypass
- IDP Boundary
- Future Conceptual Road Network Map #B
- Major Intersection
- Future Municipal Road Planning

Vermilion River / Lloydminster IDP

MATRIX PLANNING
G.T. Hofmann & Associates

Scale - 1:60 000



IDP Air Photo
Map # 1

Vermilion River /
Lloydminster IDP

Legend

- IDP Boundary
 - Lloydminster City Boundary
- Air Photo Date: April 2003 (1:20,000)



MATRIX PLANNING

G.T. Hofmann & Associates

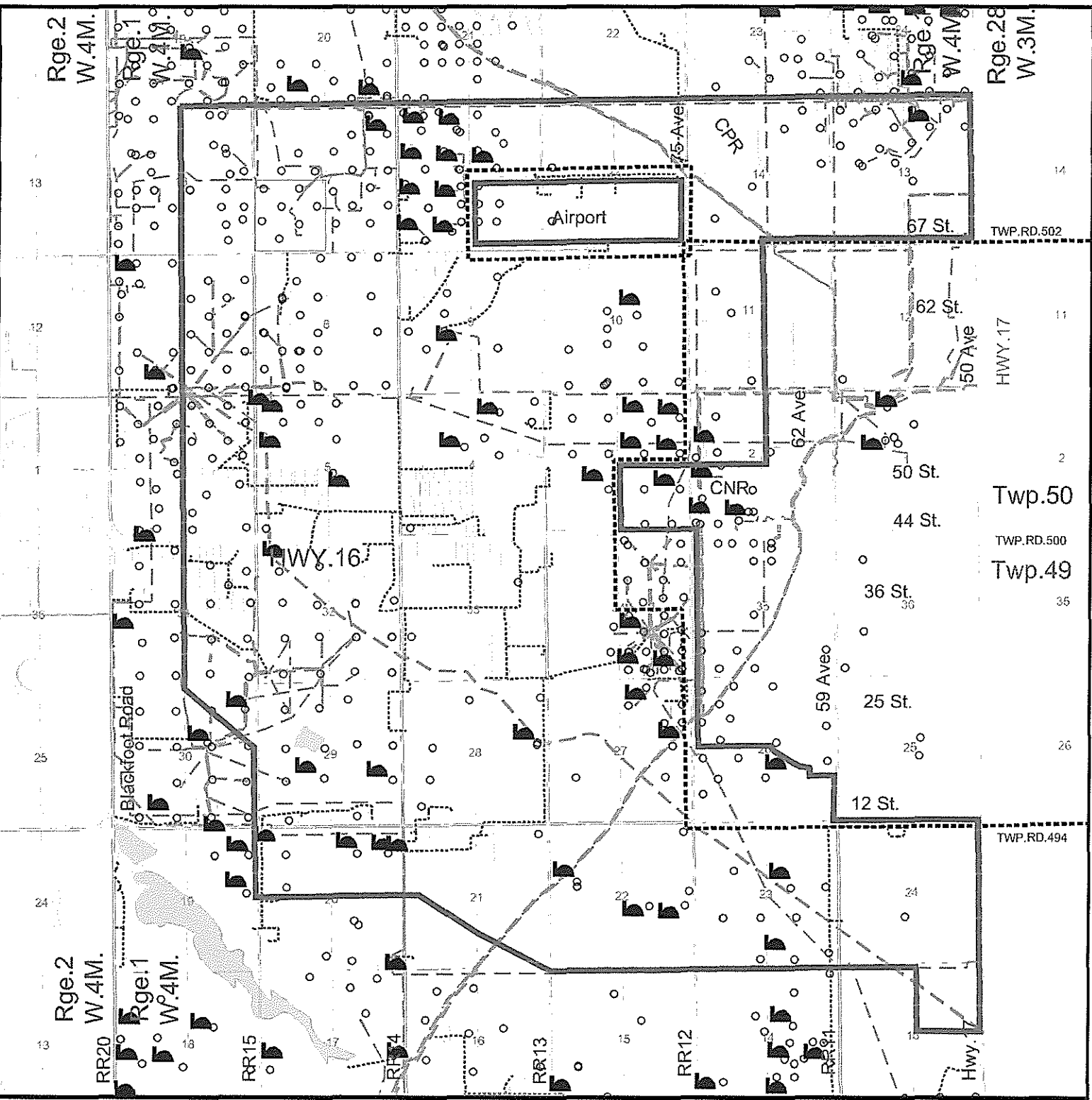
Scale - 1:60 000

EUB History of Pipelines and Wells

The accompanying map prepared the G.T. Hofmann and Associates plots out the Oil/Gas Infrastructure that is part of the Intermunicipal Development Plan between the City of Lloydminster and the County of Vermilion River.

The SW 19 50 R1 W4 indicates the existence of a Low Pressure Pipeline. This line belongs to the County and supplies natural gas to a number of homes in the vicinity.

The history of the property indicates no wells or other pipelines have been located on it.



Legend

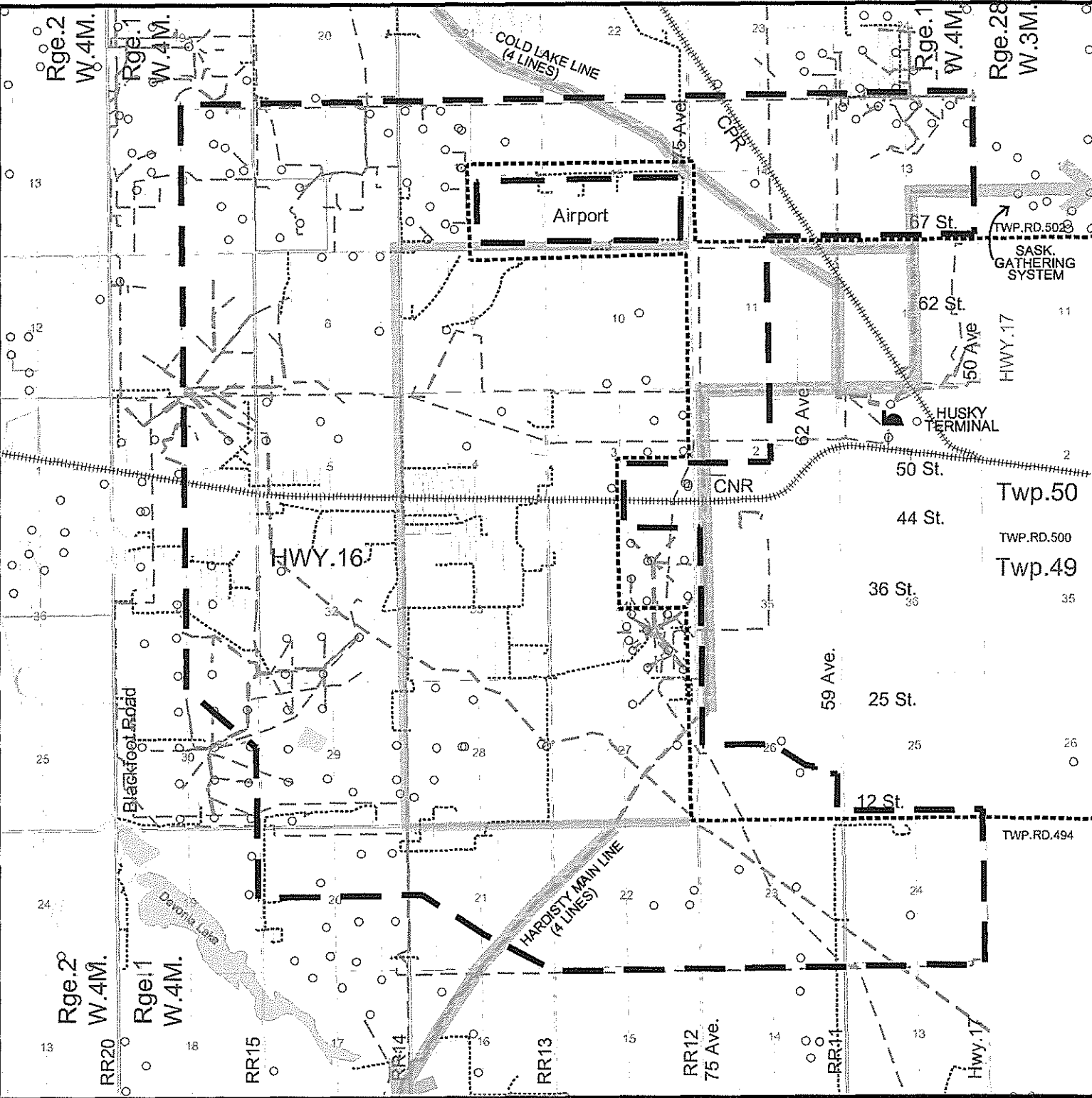
- Oil / Gas Well
- ▴ Facility
- - - High Pressure Pipeline
- Low Pressure Pipeline
- ▬ IDP Boundary
- Lloydminster City Boundary

Existing Oil / Gas Infrastructure
Map # 6

Vermilion River /
Lloydminster IDP

MATRIX PLANNING
G.T. Hofmann & Associates

Scale - 1:60 000



Legend

Existing Oil / Gas Infrastructure
Map # 6

Vermilion River /
Lloydminster IDP

- Active Oil / Gas Well
- ▭ Facility (Refinery)
- - - High Pressure Transmission Pipeline
- ⋯ Low Pressure Distribution Pipeline
- ▬ Future Pipeline Corridor

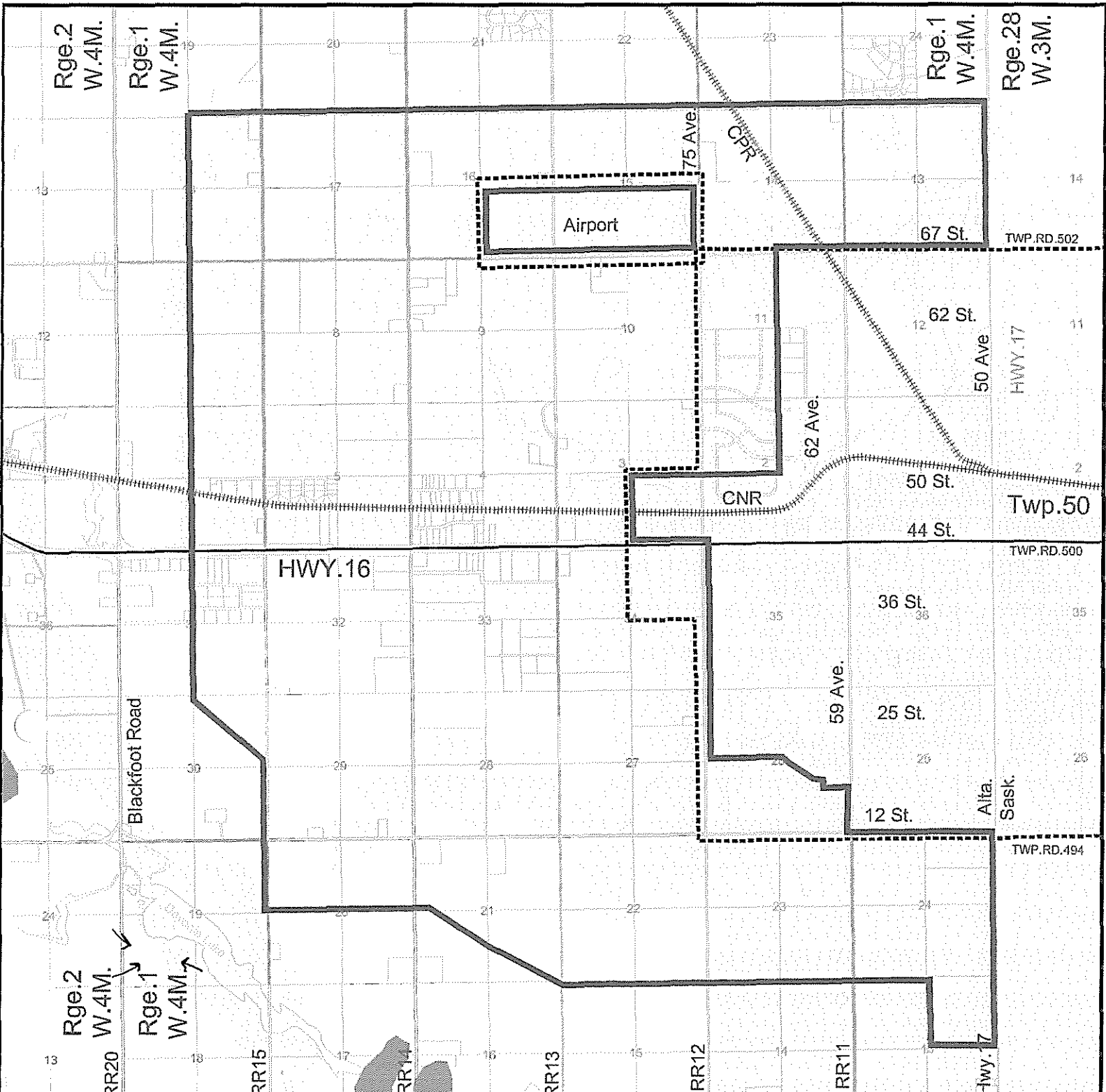
MATRIX PLANNING
G.T. Hofmann & Associates

▬ IDP Boundary

Scale - 1:60 000

Farmland Assessment Rating

The map as presented by Matrix Planning indicates the soil has an agricultural rating of Class 2 and 3.



- Legend**
- CLI Class 2
 - CLI Class 3
 - CLI Class 4

CLI Land Capability for Agriculture
Map # 3

Vermilion River /
Lloydminster IDP

- IDP Boundary
- - - - Lloydminster City Boundary

MATRIX PLANNING
G.T. Hofmann & Associates

Scale - 1:60 000

File No.: Lloyd IDP May 7 05.dwg

Groundwater Potential Plan

The Groundwater Potential Plan was completed by McAllister Drilling Inc. of Lloydminster, Alberta. A total of 4 wells were tested, which were either on this quarter of land, or in the immediate vicinity.

Attached is a copy of the data collected, and a map of the well locations.

Rge. 2

W.4M.

Rge. 1

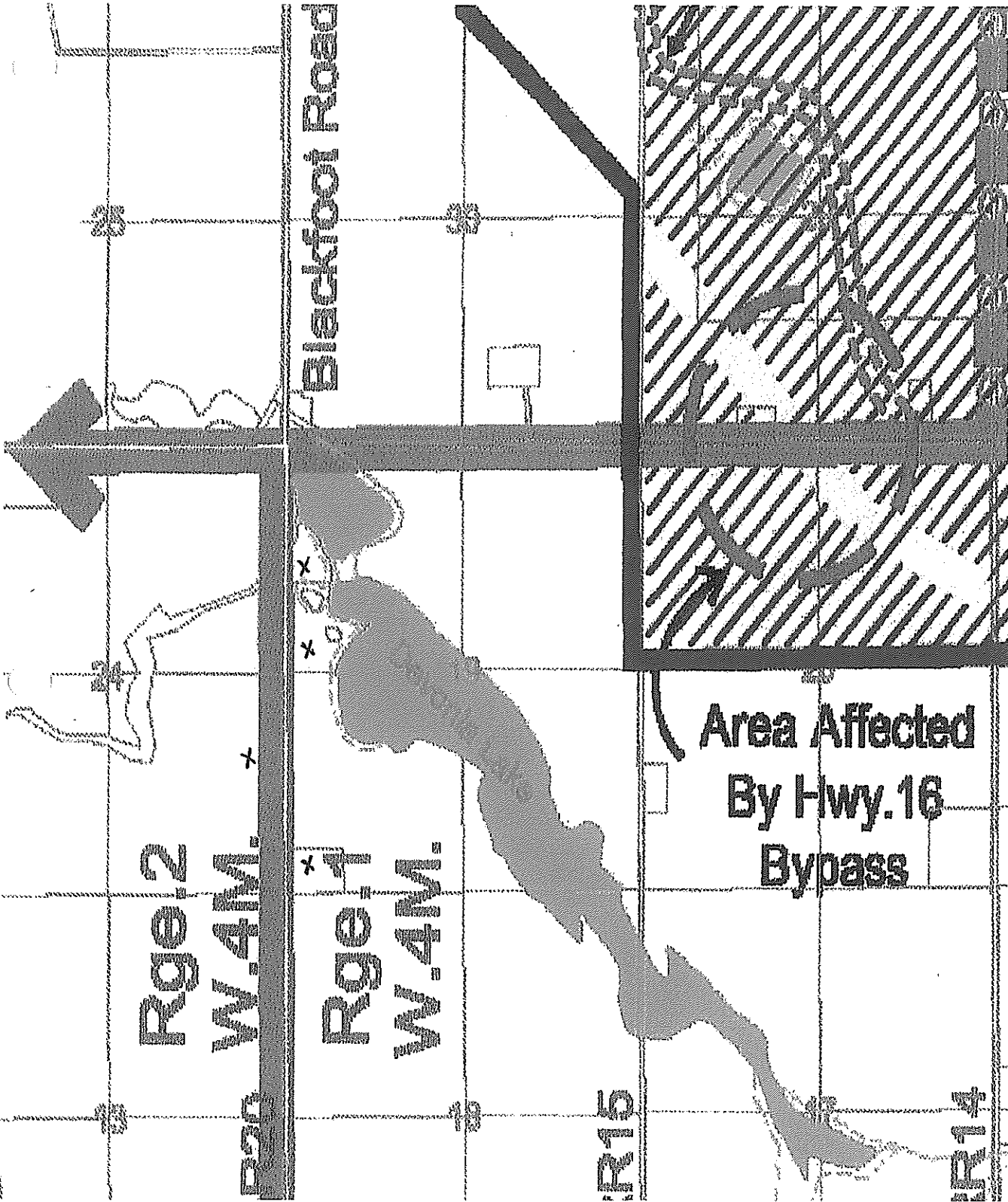
W.4M.

Blackfoot Road

Area Affected
By Hwy. 16
Bypass

R15

R14



Water Well Test Form

Date Feb 18/06

Time 1:30 pm

Program Name _____ Job # _____

Land owner name Glen Modin Phone # _____

Address: Edmonton, Alta

L.S.D. NW Sec. 19 Twp. 49 Rge. 1 W. of 4

Description of Well location on property, 10 meters

east of shop.

Well Tester Dean M. Allister Lic. # 3467AD Phone # 8081597

Measurements taken from Top of casing

Well depth _____ Pump Submersible

Static level 28.715 Pumping Rate 4.25 gpm

Water sample taken from _____

Age of well _____ Type of Well Drilled

Pre test _____ Post test _____ Analysis required: Yes _____ No _____

Well Use : Domestic Livestock _____

Pumping	Minutes	Recovery

Comments:

200 gpd.

GPS

N 53rd 14.563'

W 110th 08.971'

Water Well Test Form

Date Feb 18/06

Time 1.00 PM

Program Name _____ Job # _____

Land owner name Bob Mitchell Phone # _____

Address: Red Deer, Alta.

L.S.D. SE Sec. 24 Twp. 49 Rge. 2 W. of 4

Description of Well location on property, In pumphouse

30 meters north & 10 meters east of house

Well Tester Dean McAllister Lic. # 3463A Phone # 8081597

Measurements taken from Top of well pit board cover

Well depth _____ Pump Submersible

Static level 33.66 Pumping Rate 5gpm

Water sample taken from _____

Age of well old Type of Well 6" steel casing

Pre test _____ Post test _____ Analysis required: Yes _____ No _____

Well Use: Domestic Livestock _____

Pumping	Minutes	Recovery

Comments:
 GPS Reading
 N 53° 14.341
 W 110° 09.128
 usage - 300 gpd.

Water Well Test Form

Date Feb 18/06

Time 2:15 Pm.

Program Name _____ Job # _____

Land owner name Ola Hegseth Phone # 8758899

Address: BR5 Lloyd Alta

L.S.D. Nw Sec. 19 Twp. 49 Rge. 1 W. of 4

Description of Well location on property, 25 meters
north of house

Well Tester Dean M. Allister Lic. # _____ Phone # _____

Measurements taken from Top of casing

Well depth 260 Pump Submersible

Static level 29.28 Pumping Rate 29 gpm

Water sample taken from _____

Age of well 1996 Type of Well Drilled 5" plastic

Pre test Post test Analysis required: Yes No

Well Use : Domestic Livestock

Pumping	Minutes	Recovery

Comments:
350 gpd.
N 53° 14.755'
W 110° 08.976'

Water Well Test Form

Date Feb 22/06

Time 5.00pm

Program Name _____ Job # _____

Land owner name Norm Dallyn Phone # 8750362

Address: Box 367 Lloyd, Sask. S9V0R4

L.S.D. SEJ Sec. 19 Twp. 49 Rge. 1 W. of 4

Description of Well location on property, 20 meters N.W. of house.

Well Tester _____ Lic. # _____ Phone # _____

Measurements taken from Top of casing

Well depth 240ft Pump Submersible

Static level 32.01 Pumping Rate 8gpm

Water sample taken from _____

Age of well _____ Type of Well Drilled 5" plastic

Pre test _____ Post test _____ Analysis required: Yes _____ No _____

Well Use : Domestic Livestock _____

Pumping	Minutes	Recovery

Comments:

Well usage 600gpm

W53 # 14.098'

W110 # 08.972'

Natural Features

The topography of the site can be described as rolling with natural drainage from the S.W. corner, which is the highest point to the East and North into Devonia Lake.

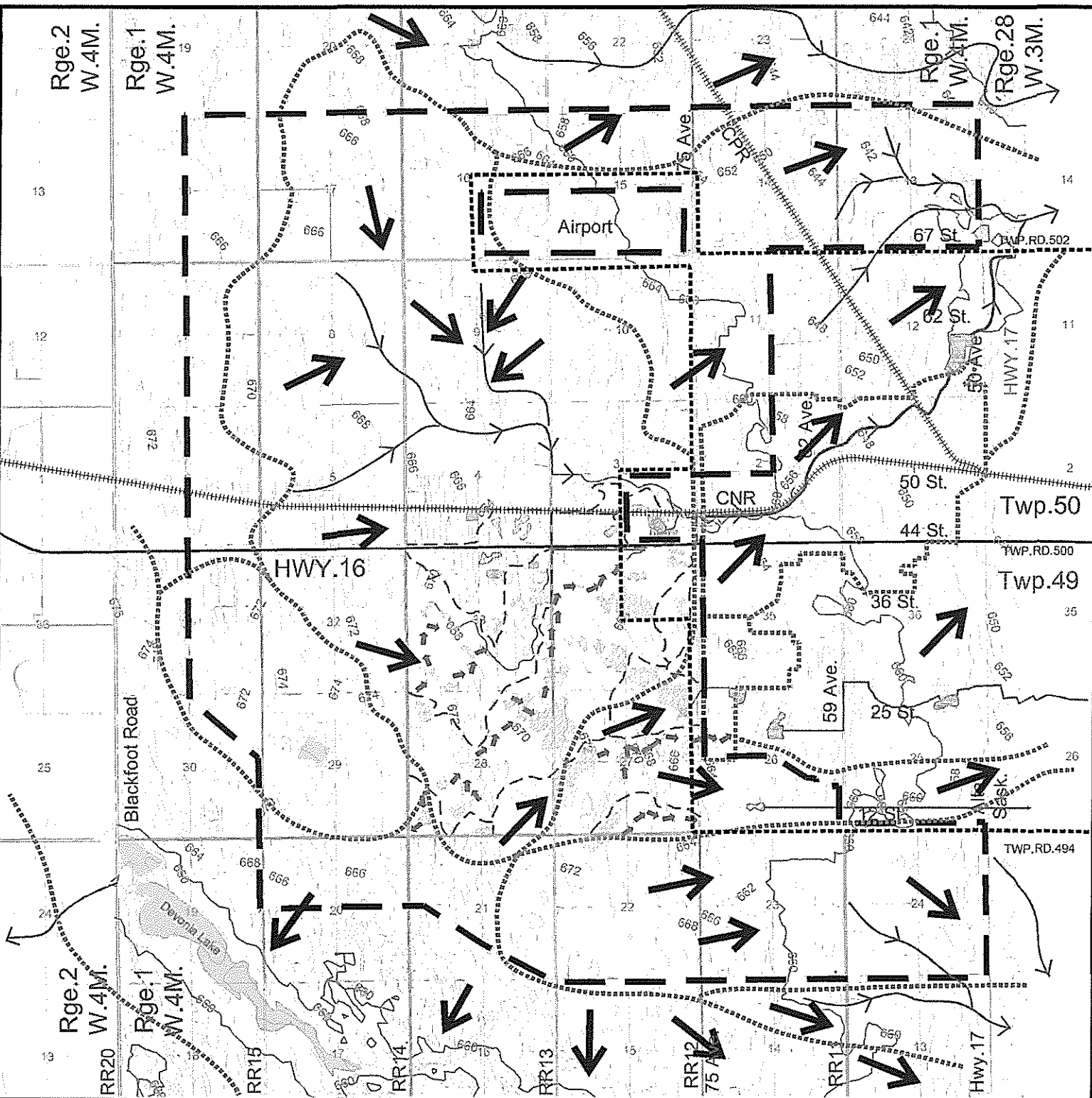
The Development offers a variety of possibilities for home construction:

- 1) Lake Front
- 2) Hillside Plans
- 3) View Lots with a 40 foot rise above the Lake
- 4) Walkout designs

There should be no water problems due to existing natural drainage, the Lake level control system and no drainage over neighbor's properties. The proposed road/ditch infrastructure system follows the natural valleys of the property, collecting run-off from homes built into/on the surrounding hills and delivers it to the lake via 2 low points in the development. Additionally, the banks of the Lake front lots rise rapidly from the water's edge, preventing back flooding should a rising water level occur.

Devonia Lake should be an asset to the Development:

- 1) In 10 years, it has shown no signs of alkalinity, even when there was limited inflow due to drought
- 2) Large numbers of geese and ducks have been observed using it as a home and resting place.



Legend

Existing Storm Drainage Patterns

- Drainage Basin Boundary
- Watercourse/Storm Channel
- Catchment Boundary
- Seasonally Flooded Area
- Seasonal Wetland
- Wet or dry pond
- Seasonal Drainage
- Drainage Direction

Potential Storm Water Management

- Proposed Trunk Stormwater Sewer
- Storm Water Management Pond

Contour

- Major (20m Interval)
- Minor (2m Interval)

Other Symbols

- IDP Boundary
- Lloydminster City Boundary

Existing Topography / Storm Drainage Patterns
Map # 2

Vermilion River / Lloydminster IDP

MATRIX PLANNING
G.T. Hofmann & Associates

Scale - 1:60 000

Adjacent Land Uses

North and North East

NW 19 49 R1 W4, E ½ 19 49 R1 W4

- 1) 2 acreages are located along RR20 on the North East Boundary
- 2) Additional properties are crop, hay or pasture. These land parcels are separated from the acreage subdivision by the natural barrier being Devonia Lake.

East

PT SE 19 49 R1 W4

- 1) Located on the East boundary is an approximately 17 acre piece of land. It has been separated from the rest of the quarter by Devonia Lake.
- 2) It is currently in hay production, but could be grazed due to a fence that is on the East boundary.

South and South East

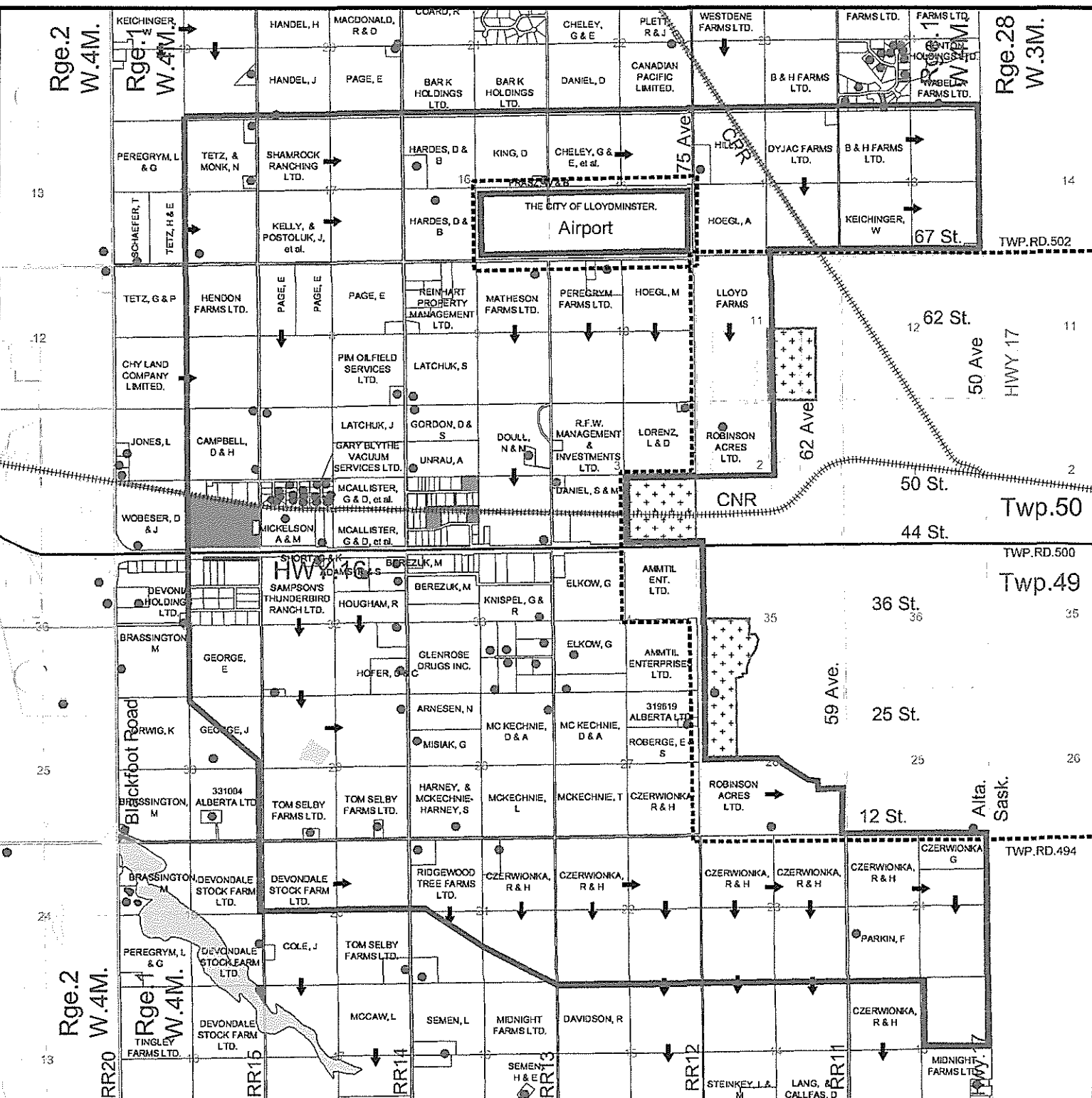
PT SE 18 49 R1 W4, SW 18 49 R1 W4

- 1) These properties are currently used for hay or grazing applications.
- 2) A fence is currently in place on the South Boundary.

West

E ½ 24 49 R2 W4, NE 13 49 R2 W4

- 1) Various agricultural usages have been observed: crops, green feed, swath grazing, and silaging.



- Legend**
- City Owned Parcels
 - County Owned Parcels
 - Residence Location
 - IDP Boundary
 - Lloydminster City Boundary

Land Ownership
Map # 7

Vermilion River /
Lloydminster IDP

MATRIX PLANNING
G.T. Hofmann & Associates

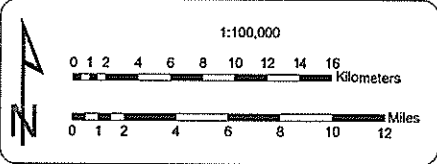
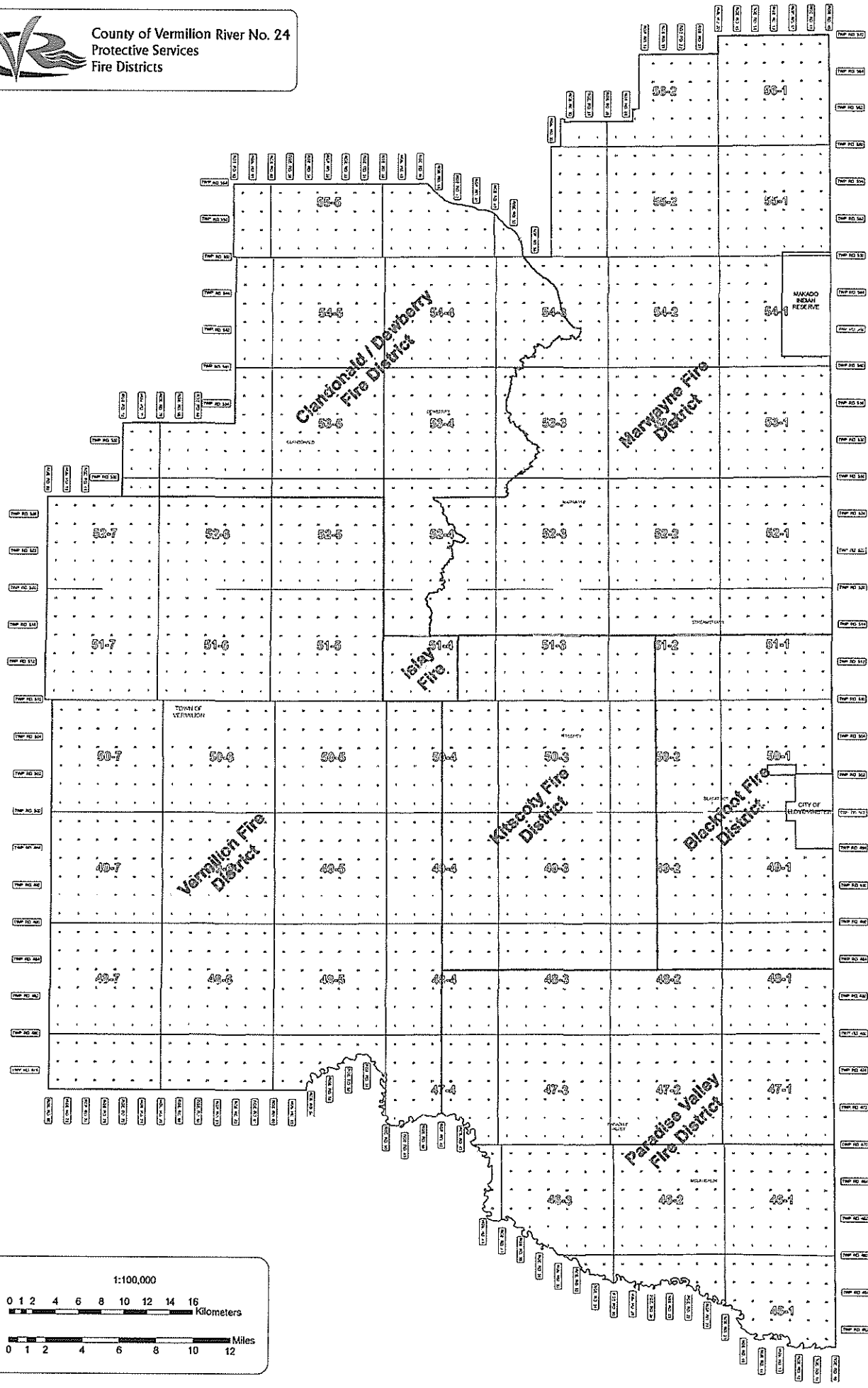
Scale - 1:60 000

Fire Protection

Fire fighting services are available from the volunteer Fire Department located in Blackfoot. The map labelled "Protective Services Fire Districts" indicates which zone this multi-parcel County Residential Subdivision falls in.



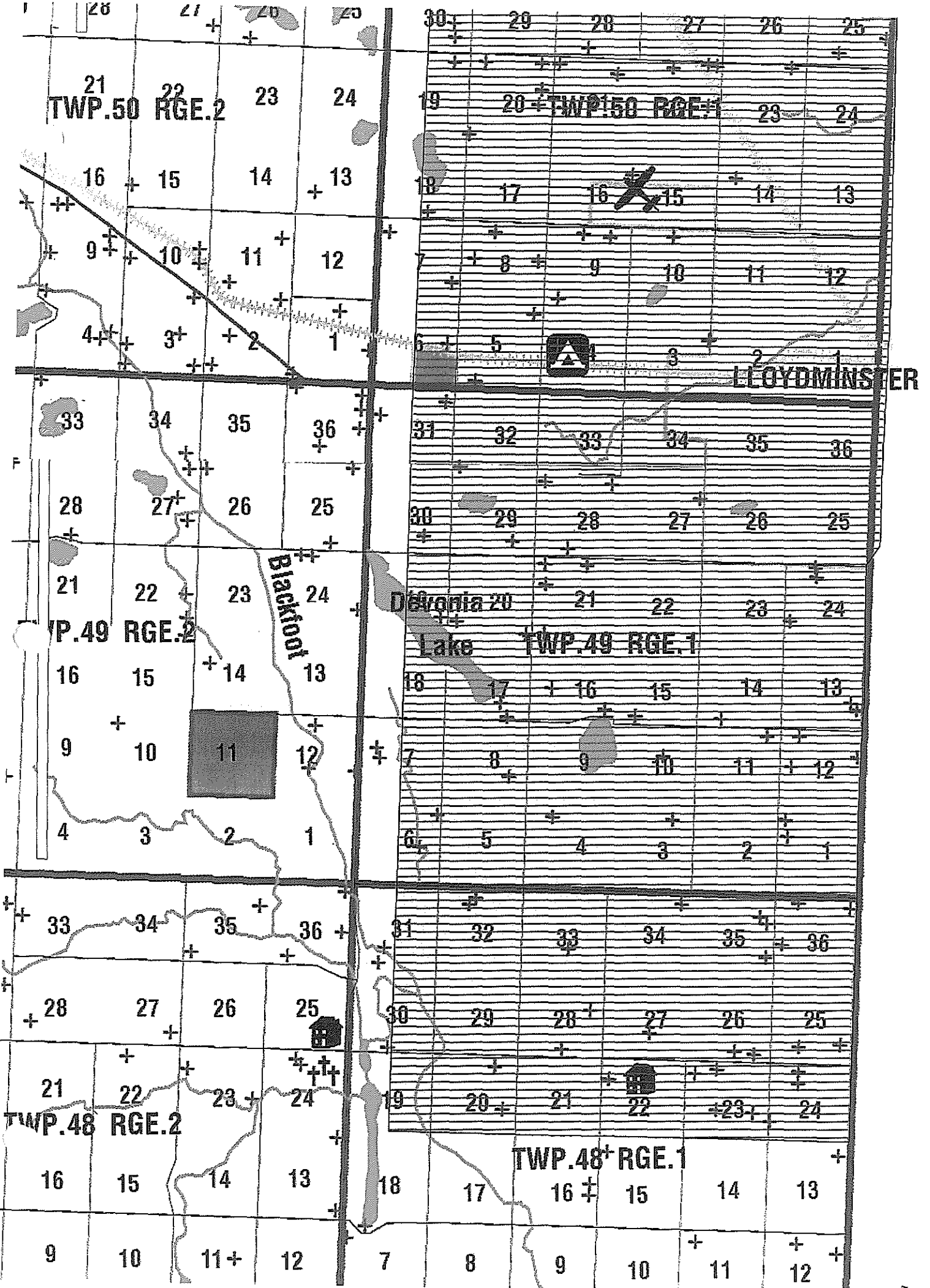
County of Vermilion River No. 24
Protective Services
Fire Districts



School District

The following information was supplied by the Buffalo Trail Public School Division. This Development falls in the Kitscoty Public School System and it is expected that the majority of children would be bussed to that location.

Arrangements can also be made to access the Lloydminster School System.



TWP.50 RGE.2

TWP.50 RGE.1

LEOYDMINSTER

TWP.49 RGE.2

Delronia Lake
TWP.49 RGE.1

TWP.48 RGE.2

TWP.48 RGE.1

Blackfoot

LLOYDMINSTER TRANSPORTATION SERVICE AREA

Commencing at the Saskatchewan border (Highway #17) at the southeast corner of SE 24-48-1 W4, then five and a half (5 ½) miles west to the southwest corner of SE 19-48-1 W4, then north eighteen (18) miles to the northwest corner of NE 18-51-1 W4, then east five (5) miles to the northwest corner of NE 13-51-1 W4, then four and a half (4 ½) miles north to the northwest corner of SE 12-52-1 W4, then a half (½) mile east to the Saskatchewan border (Highway #17), then south twenty-two and a half (22 ½) miles to the point of commencement, excluding the City of Lloydminster.

*Parents wishing to enroll their children in a school outside of their designated transportation service area may be permitted to do so subject to existing Board Policy EEB4, Boundary Exemption Resident Students.

LLOYDMINSTER BUSES

BUS #	Picks up L.P.S.D. Students attending these schools	Picks up L.C.S.D. Students attending these schools
VR-L1	Jack Kemp Elementary School E.S. Laird Middle School Lloydminster Comprehensive H.S.	St. Mary Elementary School Ecole St. Thomas Holy Rosary High School
VR-L2	Queen Elizabeth Elementary School E.S. Laird Middle School Lloydminster Comprehensive H.S.	St. Mary Elementary School Ecole St. Thomas Holy Rosary High School
VR-L3	Jack Kemp Elementary School E.S. Laird Middle School Lloydminster Comprehensive H.S.	St. Mary Elementary School Ecole St. Thomas Holy Rosary High School
VR-L7	Queen Elizabeth Elementary School E.S. Laird Middle School Lloydminster Comprehensive H.S.	St. Mary Elementary School Ecole St. Thomas Holy Rosary High School

Under the agreement with Lloydminster Public School Division:

Students North of Highway #16 attend Queen Elizabeth Elementary School

Students South of Highway #16 attend Jack Kemp Elementary School

We transport to these schools only.

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
VACANT UNDEVELOPED PROPERTY
PORTION OF SW ¼, SEC. 19, TWP. 49, RGE. 1, W4M
COUNTY OF VERMILION RIVER, ALBERTA**

Submitted to:

**2 PGL HOLDINGS
PO BOX 96
Blackfoot, Alberta
T0B 0L0**

Submitted by:

AMEC Earth & Environmental,
a division of AMEC Americas Limited
5406 - 52 Avenue
Lloydminster, Alberta
T9V 2T5

23 February 2006

Project No. AX4762

23 February 2006
Project No. AX4762

2 PGL Holdings
PO Box 96
Blackfoot, Alberta
T0B 0L0

Attention: Mr. Lorie Peregrym

Dear Sir:

**RE: Phase I Environmental Site Assessment
Vacant Undeveloped Property
Portion of SW ¼, Sec.19, Twp. 49, Rge. 1, W4M
County of Vermilion River, Alberta**

AMEC Earth & Environmental (AMEC) is pleased to provide two bound copies of the above noted report. Based on information made available to AMEC through a historical records search and review, a site visit, and interviews with people familiar with the Site no environmental issues were identified.

I trust this meets your present requirements. If you have any questions, concerns or require further clarification regarding the contents of the report, please do not hesitate to contact this office.

Respectfully Submitted,

**AMEC Earth & Environmental,
a division of AMEC Americas Limited**



Tammy Sahaydak
Environmental Technician
Lloydminster, Alberta



Paul Larsen, C.E.T., C.E.S.A.
Manager of Technical Services
Lloydminster/Bonnyville, Alberta

TNS/jbb

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EXECUTIVE SUMMARY

- PROJECT NAME:** Phase I Environmental Site Assessment
- CIVIC ADDRESS:** Not Applicable
- LEGAL DESCRIPTION:** SW ¼, Sec. 19, Twp. 49, Rge. 1, W4M
County of Vermilion River, Alberta
- SITE OWNER:** Lorie Derwayne Peregrym and Glenda Noreen Peregrym
- OCCUPANCY:** Vacant Undeveloped property
- SITE DESCRIPTION:** The Site is located 10 km west and 5 km south of Lloydminster, Alberta and is located within SW ¼, Sec.19, Twp. 49, Rge. 1, W4M. The Site, having an area of 48.2 hectares, consists of undulating terrain and generally slopes northeast toward Devonia Lake which encroaches from the northeast. A tree line borders the west site boundary and bush and trees follow the contour of the lake on the northeast boundary of the Site. The Site is currently utilized as agricultural cropland.
- ADJACENT LAND USE:** Agricultural property containing scattered oilfield leases are located to the north, east, south, and west of the Site. Farmyards are also located on the adjacent properties at the northwest and southwest corners of the site.
- FINDINGS:** Based on information made available to AMEC through a historical records search and review, a site visit, and interviews with people familiar with the Site, no environmental issues were identified.

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- APPENDIX B: Historical Aerial Photographs and Site Photographs
- APPENDIX C: Land Titles Information
- APPENDIX D: Correspondence
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Glossary of Commonly Used Abbreviations

ACM	Asbestos Containing Material
AMEC	AMEC Earth & Environmental, a division of AMEC Americas Limited
AST	Aboveground Storage Tank
AENV	Alberta Environment
ELC	Environmental Law Centre
EPEA	Environmental Protection and Enhancement Act
ESA	Environmental Site Assessment
FOIP	Freedom of Information and Protection of Privacy
H.E.L.P.	Help End Landfill Pollution
IAO	Insurer's Advisory Organization
LBP	Lead Based Paint
MSDS	Material Safety Data Sheet
NORM	Naturally Occurring Radioactive Material
ODS	Ozone Depleting Substances
PCB	Polychlorinated Biphenyl
PTMAA	Petroleum Tank Management Association of Alberta
SE	Saskatchewan Environment
UFFI	Urea Formaldehyde Foam Insulation
UST	Underground Storage Tank
WHMIS	Workplace Hazardous Materials Information System

1.0 INTRODUCTION

This report presents the results of a Phase I Environmental Site Assessment (ESA) for a vacant undeveloped property (SW ¼, Sec.19, Twp. 49, Rge. 1, W4M) southwest of Lloydminster, Alberta; hereafter referred to as the 'Site'.

1.1 PROJECT BACKGROUND

Mr. Lorie Peregrym of 2 PGL Holdings retained AMEC Earth & Environmental (AMEC) to conduct a Phase I ESA for the above referenced property. Authorization to conduct the environmental investigation was received from Mr. Lorie Peregrym of 2 PGL Holdings on 30 January 2006.

1.2 SITE LOCATION

The Site is located 10 km west and 5 km south of Lloydminster, Alberta within SW ¼, Sec.19, Twp. 49, Rge. 1, W4M. The Site is bordered by Devonian Lake to the northeast and by Range Road 20 to the west. Agricultural property with scattered oilfield leases borders the Site to the north, east, south, and west. Farnyards are also located adjacent the southwest corner of the Site, and on the adjacent north and west properties. The Site location is shown on Figure 1.

2.0 METHODS

2.1 OBJECTIVE

The objective of this Phase I ESA is to identify actual or potential environmental contamination that could be associated with current and past activities on the Site, and to determine if additional investigations are recommended.

2.2 SCOPE

AMEC's methodology in conducting Phase I ESAs is based on the requirements in the Canadian Standards Association¹ guidelines. A standardized checklist was used as a guide during the inspection and is presented in Appendix A.

The Phase I ESA consisted of:

- a historic records search and review to identify any conditions, practices and operations, current or past, which may constitute an environmental concern to the Site;
- correspondence with the provincial or municipal environmental regulatory agencies to determine environmental requirements and registrations for the Site;

1. Canadian Standards Association (CSA). (2001). Phase I Environmental Site Assessment (CSA Z768.01). Ottawa, Canada.

2 PGL Holdings
Phase I Environmental Site Assessment
Portion of SW ¼, Sec.19, Twp. 49, Rge. 1, W4M
February 2006

- a site visit to identify conditions or practices that may represent an environmental concern;
- interviews with persons knowledgeable about the Site; and
- the preparation of a report summarizing the methodology and findings of the historical and site reconnaissance tasks. This report would include recommendations for additional detailed investigation and assessment, if necessary.

Physical sampling and analysis of soils and/or groundwater are beyond the scope of this Phase I ESA. Those portions of the SW ¼, Sec. 19, Twp. 49, Rge. 1, W4M currently covered by the water of Devonia Lake and the farmyard to the southwest corner of the Site are beyond the scope of this Phase I ESA.

2.3 HISTORICAL RECORDS SEARCH

A historical records search was conducted to develop a profile of the Site and adjacent properties' history. Information sources included:

- aerial photographs;
- land titles information;
- review of municipal files and plans; and
- persons familiar with the Site and area history.

Historical aerial photographs were obtained from AMEC's in-house library. Historical aerial photographs are useful for identifying land uses, structures and development.

A request for a historical land titles search was made to Wilson Registries in Lloydminster, Alberta. The purpose of the land titles search was to determine previous ownership of the Site.

A request to review files and plans for the Site was made to Mr. Randy Belliveau of the County of Vermilion River.

Other persons familiar with area history were interviewed to obtain information pertaining to the Site and adjacent properties.

2.4 ENVIRONMENTAL REGISTRATIONS

A request for a well site reclamation historical search of the SW ¼, Sec. 19, Twp. 49, Rge. 1, W4M made to the Environmental Law Centre. File searches include information supplied by Alberta Environment (AENV) with respect to Reclamation Certificates (applied for, issued or cancelled), Environmental Protection Orders, and Conservation and Reclamation Orders, Enforcement Orders, Reclamation Orders, and Conservation and Reclamation Notices issued pursuant to the Alberta Environmental Protection and Enhancement Act (EPEA) and its

predecessor legislation, the "Land Surface Conservation Act" and the "Surface Reclamation Act" since 1963.

A review of Alberta Environment's Help End Landfill Pollution (H.E.L.P.) project registry of industrial landfill sites and other published data was undertaken to identify any registered landfills that may have been present in the immediate area of the Site.

A request for records of active tank sites and inventory of abandoned tank sites for the Site was made to the Petroleum Tank Management Association of Alberta (PTMAA).

A request for a file search of the Site was made to Alberta Transportation's Dangerous Goods Control to provide information on any reported dangerous goods incidents that may have occurred at or near the Site.

AENV's Freedom of Information and Protection of Privacy (FOIP) office was contacted to inquire about the availability of readily available scientific and technical reports documenting contamination, records of spills or releases, investigations, activities and enforcement actions that are related to the Site.

The Abacus Diagnostic Report was reviewed for the section the Site is in and the adjacent sections.

2.5 SITE VISIT

A site visit was undertaken during which the Site and adjacent properties were visually inspected. The purpose of the site visit was to identify conditions or practices which may represent an environmental concern. In addition, the site visit was used to confirm and to expand upon findings of the historical records search and review.

3.0 RESULTS AND DISCUSSION

3.1 HISTORICAL LAND USE

3.1.1 Historical Aerial Photographic Information

Reproductions of historical aerial photographs for the Site and the surrounding area were obtained for the years 1949, 1965, 1975, 1982, 1991 and 2001. The features observed in the photographs are summarized below.

- 1949 The Site appeared to consist of cleared agricultural property as well as undeveloped bush and trees. Range Road 20 was established and was evident along the west Site boundary. Devonia Lake formed the northeast boundary of the Site. Adjacent properties to the south and west beyond Range Road 20 appeared to consist of agricultural property.

- 1965 The Site and the adjacent properties appeared similar to the 1949 aerial photograph.
- 1975 The Site and adjacent properties appeared similar to the 1965 aerial photograph.
- 1982 The entire Site appeared to consist of cleared agricultural property. The adjacent properties appeared similar to the 1975 aerial photograph.
- 1991 The Site and the adjacent properties appeared similar to the 1982 aerial photograph except for a farmyard (120 m x 150 m) evident adjacent to the southwest corner of the Site, and a farmyard evident on the adjacent property to the north at the northwest corner of the Site.
- 2001 The Site and the adjacent properties appeared similar to the 1991 aerial photograph.

No potential environmental concerns were identified by the historical aerial photograph review.

Copies of historical aerial photographs appear in Appendix B.

3.1.2 Land Titles Information

A summary of available Land Titles information is as follows:

SW ¼, Sec. 19, Twp. 49, Rge. 1, W4M

- 1996 Lorie Derwayne Peregrym and Glenda Noreen Peregrym
- 1996 Charles Ernest Brown and Janet Kathleen Brown

A copy of the most recent Certificate of Title for the Site is provided in Appendix C.

3.1.3 Municipal Records Review

A response from Mr. Randy Belliveau of the County of Vermilion River revealed that only a blank file for the Site exists as it has never been developed.

3.1.4 Interviews

Mr. Randy Belliveau of the County of Vermilion River indicated that the Site consists of agricultural land. It was understood that the Site has only been used as agricultural crop and pasture land. Mr. Belliveau was not aware of any environmental concerns.

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Mr. Lorie Peregrym of 2 PGL Holdings, owner of the Site from 1996 to 2006, indicated that no reclamation has been undertaken and that no gas/oil wells have been present on Site. In October 2000, Husky Energy had completed 2-D seismic on the land. In the fall of 2005, 3-D seismic was completed on the adjacent land to the west across range road 20. Mr. Peregrym also indicated that to the best of his knowledge no USTs or ASTs are located in the farmyard adjacent to the southwest corner of the Site. It was also understood that no underground utilities exist on Site except for two underground natural gas lines that service the three farm yards on the adjacent properties.

3.2 ENVIRONMENTAL REGISTRATIONS

A formal response from the ELC indicated that as of 2 February 2006, with respect to SW ¼, Sec. 19, Twp. 49, Rge.1, W4M no Reclamation Certificates (applied for, issued or cancelled), Reclamation Orders and Conservation and Reclamation Notices were issued pursuant to the "Alberta Environmental Protection and Enhancement Act" and its predecessor legislation, the "Land Surface Conservation and Reclamation Act" and the "Surface Reclamation Act" since 1963.

No landfill sites were recorded within the SW ¼, Sec. 19, Twp. 49, Rge.1, W4M or on the adjacent properties according to Alberta Environment's H.E.L.P. (Help End Landfill Pollution) program².

A formal response from PTMAA indicated that there are no records of active tank sites or abandoned tank sites at the Site.

A formal response from Alberta Transportation's Dangerous Goods Control indicated that they are not capable of searching by LSD. Dangerous Goods spills are recorded by highway number and location or by street, address, and municipality.

A formal response from the AENV FOIP office indicated that Alberta Environment has not found any routinely available records under the Environmental Protection and Enhancement (EPEA) Legislation.

A review of the Abacus Diagnostic Report identified the following:

- Oil and Gas Well Summary
 - No oil and/or gas well leases in the target quarter section.
 - Three oil and gas well leases (one active, two abandoned) in the quarter section adjacent to the south; the closest at a distance of approximately 350 m.
 - Five oil and/or gas well leases (three active, two abandoned) in the quarter section to the west; the closest at a distance of approximately 325 m.

2 Alberta Environment, 1988. Data Tracking and Management Control System H.E.L.P. (Help End Landfill Pollution) Program, Industrial Waste Landfill Program, Edmonton, Alberta.

3.3 SITE VISIT

A site visit was conducted by an AMEC representative. The Site and adjacent properties were visually inspected to identify evidence of contamination in the form of soil disturbance, waste storage/spillage, and staining or discoloration of soils. An inspection of the Site was also carried out to determine the presence of hazardous materials or other chemicals or wastes as applicable. AMEC's own in-house standardized site inspection checklist was used and is presented in Appendix A.

3.4 SITE CONDITIONS

3.4.1 Site Description

The Site consists of undulating terrain and generally slopes toward the northeast toward Devonia Lake on the northeast portion of the Site. A tree line borders the west Site boundary and bush follows the contour of Devonia Lake on the northeast quarter of the Site. The Site is agricultural property. A low pressure gas line is also located on the west boundary of the Site.

3.4.2 Site Drainage and Topography

The ground surface across the Site consists of undulating terrain. Scattered low lying areas across the Site are likely poorly drained or undrained. Generally surface runoff water would likely move northeast across the Site toward Devonia Lake.

3.4.3 Regional Geology and Hydrogeology

The bedrock underlying the Blackfoot area is the Belly River Formation³ that consists of non marine thick-bedded feldspathic sandstone, clayey siltstone, and mudstone which are grey to greyish green in color, and contain concretionary ironstone beds. Drift thickness is estimated between 50 m and 150 m in depth. The subsurface soils in the vicinity of the Site generally consist of a glacial till deposit. The till (an unsorted mixture of earth materials deposited directly from the glacier) is generally low to medium plastic soil containing sand, silt and clay. Scattered sand and gravel deposits frequently break the till and are considered a major source of groundwater. Groundwater flow in the vicinity of the Site is anticipated to be towards the northeast.

3 1976; Hydrogeology of the Vermilion Area, Alberta, Report 75-5, Alberta Research Council.

3.4.4 Adjacent Properties

The adjacent properties consist of agricultural property and Devonian Lake to the northeast as follows:

- North Agricultural property with a farmyard. Storage of a few old vehicles and farm machinery.
- South Agricultural property. Farmyard adjacent to the southwest corner of the Site includes a house, sheds, barn, shop and garage. A former oil/gas well lease was located approximately 350 m south of the Site.
- East Agricultural property.
- West Agricultural property and a farmyard to the west beyond Range Road 20. A former oil/gas well lease was located approximately 325 m west of the Site.

4.0 SITE OBSERVATIONS

The site observations are presented in the following text and the completed checklists are included in Appendix A. The inspection was limited to areas readily accessible.

4.1 ASBESTOS CONTAINING MATERIALS (ACMs)

No potential ACMs were observed at the Site.

4.2 UREA FORMALDEHYDE FOAM INSULATION (UFFI)

No evidence of UFFI was observed at the Site.

4.3 LEAD-BASED PAINTS (LBP)

No potential sources of lead were observed at the Site.

4.4 POLYCHLORINATED BIPHENYLS (PCBs)

No potential PCB-containing electrical equipment was observed at the Site.

4.5 OZONE DEPLETING SUBSTANCES (ODSs)

No potential ODSs were observed at the Site.

4.6 CHEMICAL INVENTORY, STORAGE AND HANDLING

No chemicals were observed at the Site.

4.7 STORAGE TANKS

Aboveground Storage Tanks (ASTs)

No ASTs were observed at the Site.

Underground Storage Tanks (USTs)

No USTs were observed at the Site.

4.8 HAZARDOUS MATERIAL AND EQUIPMENT

No hazardous material or equipment was observed at the Site.

4.9 NON HAZARDOUS AND HAZARDOUS WASTE GENERATION, STORAGE AND DISPOSAL

The Site is agricultural cropland, therefore, there is no formal waste disposal. No waste or debris was observed on the Site

4.10 SUMPS

No sumps were identified at the Site.

4.11 AIR EMISSIONS

No air emission sources were identified at the Site.

4.12 WATER EMISSIONS

Stormwater runoff from the Site would likely discharge northeast to the surrounding environment, or be contained within Devonia Lake.

4.13 DUMPS AND LANDFILLS

The Site was agricultural cropland. It was understood that there have not been any quarries, landfills or dumps on the Site or on the adjacent properties. No landfill sites were recorded within the SW ¼, Sec. 19, Twp. 49, Rge. 1, W4M or on the adjacent properties according to Alberta Environment's H.E.L.P. program.

4.14 RADON AND METHANE GAS

It is understood that a radon survey has not been conducted at the Site. Due to area geology radon is not considered to be of concern. The Site is not in close proximity to a known landfill site. Therefore, methane gas is not considered to be of concern at the Site.

4.15 HERBICIDES AND PESTICIDES

No herbicides and pesticides were understood to have been used at the Site.

4.16 NUISANCE ODOURS AND NOISE

No nuisance odours or noise were observed at the Site.

4.17 ADDITIONAL OBSERVATIONS

There are farmyards adjacent to the northwest and southwest corners of the Site, as well as beyond Range Road 20 to the west. Oil and/or gas well leases (current and past) were identified on the adjacent properties to the south and the west beyond Range Road 20. The closest oilfield lease to the south was of a distance of approximately 350 m. This well site was abandoned in 1957. The closest oilfield lease to the west was at a distance of approximately 325 m and was abandoned in 1957. No other additional observations were noted.

5.0 CONCERNS AND RECOMMENDATIONS

Based on information made available to AMEC through a historical records search and review, a site visit, and interviews with people familiar with the Site, no environmental issues were identified:

6.0 CLOSURE

This assessment has been conducted using generally accepted environmental practices based on visual observations and historical data review. Performance of a standardized environmental site assessment protocol is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environment conditions in connection with the Site given reasonable limits of time and cost.

This report has been prepared for the exclusive use of 2 PGL Holdings and authorized users for specific application to this project site. The report may be relied upon for mortgage financing purposes. The environmental investigation was conducted in accordance with the proposed work scope prepared for this Site, verbal and written requests from Mr. Lorie Peregrym, and generally accepted assessment practices. No other warranty, expressed or implied, is made. The standard terms and conditions of this report are specified in Appendix E.

2 PGL Holdings
Phase I Environmental Site Assessment
Portion of SW ¼, Sec.19, Twp. 49, Rge. 1, W4M
February 2006

AMEC does not accept any responsibility for the use of this report, in whole or in part, for any purpose other than that intended or to any third party for any use whatsoever. AMEC requires that third parties wishing to rely on this report firstly agree to be bound by our proposal and AMEC's standard reliance letter. Provided that the report is still reliable, and less than 12 months old, AMEC will issue a third party reliance letter to third parties that the client has identified in writing, upon payment of current reliance letter fees. AMEC's standard reliance letter indicates that in no event shall AMEC be liable for any damages whatsoever, relating to third party reliance on AMEC's report. No reliance by any third party is permitted without such agreement.

Respectfully submitted,

**AMEC Earth & Environmental,
a division of AMEC Americas Limited**



Tammy Sahaydak
Environmental Technician
Lloydminster, Alberta

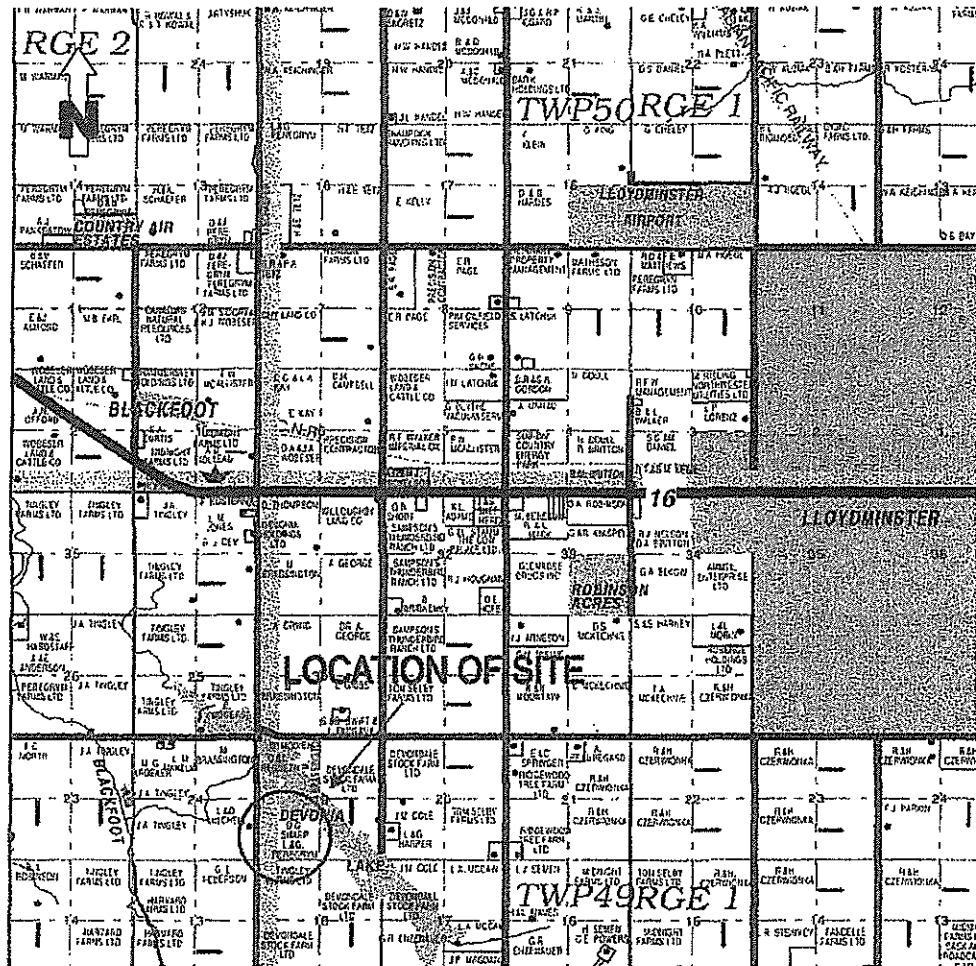


Paul Larsen, C.E.T., C.E.S.A.
Manager of Technical Services
Lloydminster/Bonnyville, Alberta

Reviewed by:

Silvan Zorzut
Senior Environmental Site Assessor

TNS/jbb



SITE PLAN SHOWING LOCATION OF SITE (SW - 19 - 49 - 1 - W4M)



2PGL HOLDINGS
 PHASE I ENVIRONMENTAL SITE ASSESSMENT
 SW - 19 - 49 - 1 - W4M
 LLOYDMINSTER, ALBERTA

Made: PEL

Checked: PEL

Scale: 1 : 40000

Project No.: AX4762

Figure: 1

APPENDIX A

COMPLETED CHECKLISTS

General Site Information

INITIAL ENVIRONMENTAL ASSESSMENT CHECKLIST

Undeveloped Land or Site

Date: 15 February 2006 Job No. AX4762

Prepared by: Tammy Sahaydak

Lot _____ Block _____ Plan _____

Municipality/Township/County SW-19-49-1-W4M

Address _____

Telephone _____ Contact _____

Size of Property 48.2 ^{hectares}/_{Acres} Any Structures on Property?
 (If Yes, please fill out Building Form)

Occupancy (Brief Description of Layout and Occupancy Details):
- agricultural cropland

1. SITE DESCRIPTION:

A)	Topography		Flat Land			Dry Land
			Hilly Terrain			Swampy Land
			High Elevation			Sloped
			Low Elevation		along east side	Other (several depressions)
			rolling undulating	✓		Unknown

B)	Soil Profile		Rocks		<input checked="" type="checkbox"/>	Top Soil
			Sand			Silt
			Clay			Other
						Unknown

C)	Are any of the following water sources on the property or do they pass through the property?					
		None				Streams
		Lakes	<input checked="" type="checkbox"/>			Channels/Ditches
		Rivers				unknown

D)	Are there any of the following features on the site? (Yes or No)					
		Mounds (Rocks)	<input checked="" type="checkbox"/>			Ponds
		Pits				Lagoons

- 5) i) Is there any evidence of excavation? no
- ii) If yes, please indicate reason for excavation. _____

F) Is the property located near any ecologically sensitive areas? Yes or No

If Yes, please check type of area and approximate distance to:

	Wetlands			Other
	Flood Plain			Unknown
	Coastal Zone			

7. Perimeter Property Usage: farming - agricultural
cropland

H. Prior Owner of Property: Charles Ernest Brown & Janet
Kathleen Brown

I. Prior Use(s) of Property:

<input type="checkbox"/>	Commercial	<input type="checkbox"/>	Mining	<input type="checkbox"/>
<input type="checkbox"/>	Residential	<input type="checkbox"/>	Industrial	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Farm Land	<input type="checkbox"/>	Undeveloped	<input type="checkbox"/>
<input type="checkbox"/>	Forest	<input type="checkbox"/>	Unknown	<input type="checkbox"/>
<input type="checkbox"/>	Other			

J. Proximity to Known Contamination Sites:

II ENVIRONMENTAL CONCERNS

	A. Are there any <u>obvious physical</u> signs of contamination on or around the property?
<input checked="" type="checkbox"/>	None
<input type="checkbox"/>	Drums or Containers (Buried or Above Ground)
<input type="checkbox"/>	Stained Soil
<input type="checkbox"/>	Vegetation Damage
<input type="checkbox"/>	Foul or Unusual Odours
<input type="checkbox"/>	Oily Sheen or Discoloration or Surface Water
<input type="checkbox"/>	Evidence of Dumping
<input type="checkbox"/>	Other

		Yes	No	Unknown
B.	Are there any groundwater wells on the property?			✓
C.	Is the depth to groundwater known?			✓
D.	Is the groundwater in the immediate area used as a source of drinking water?			—
E.	Is the surface water on the property, or passing through the property, used as a source of drinking water?			✓
F.	Is the property, or any of the adjacent properties, on a federal, state, provincial or local list of hazardous waste sites?		✓	
G.	Is the property the subject of environmental litigation or regulatory enforcement action?		✓	
H.	Are there any adverse press reports or complaints on file concerning the property?		✓	
I.	Is the property designated as a flood plain, wetland, or sensitive ecological area?		✓	
J.	Are there any easements on the property (roadways, railways, pipelines, etc) with potential environmental implication?		✓	
K.	i Have any soil samples been analyzed for any contaminants?		✓	
	ii Have the test results indicated contamination?		N/A	
L.	i Has the water quality been tested on the supply to the property? (streams, rivers, etc.)			✓
	ii Have the results indicated contamination?			✓
M.	i Has the water quality been tested on the <u>discharge</u> from the property?			✓
	ii Have the results indicated contamination?			✓
N.	Please use this area if description of any issue is required.			

Note: Go to the Master Checklist and Topic Specific Checklists is further detailed descriptions are required or warranted.

ASSESSMENT INFORMATION REQUEST FORM

Legal Address: SW-1949-1-W4M

Municipal Address:

Current Owner: Lorie Peregrym & Glenda Peregrym

1. Are/were there any underground or aboveground storage tanks (USTs/ASTs) at this site?

Yes No

a) If yes, how many USTs/ASTs/ are/were there and what are/were their contents?

b) Where are/were these USTs/ASTs located?

c) If the USTs/ASTs are no longer present, when were they removed?

2. Have there been any hydraulic lifts, hoists or dock levelers been noted on this property?

Yes No

3. Has the owner or agent ever appealed their assessment because of environmental concerns?

Yes No

a) Details of concern:

4. When was the building(s) or various additions built?

N/A

3

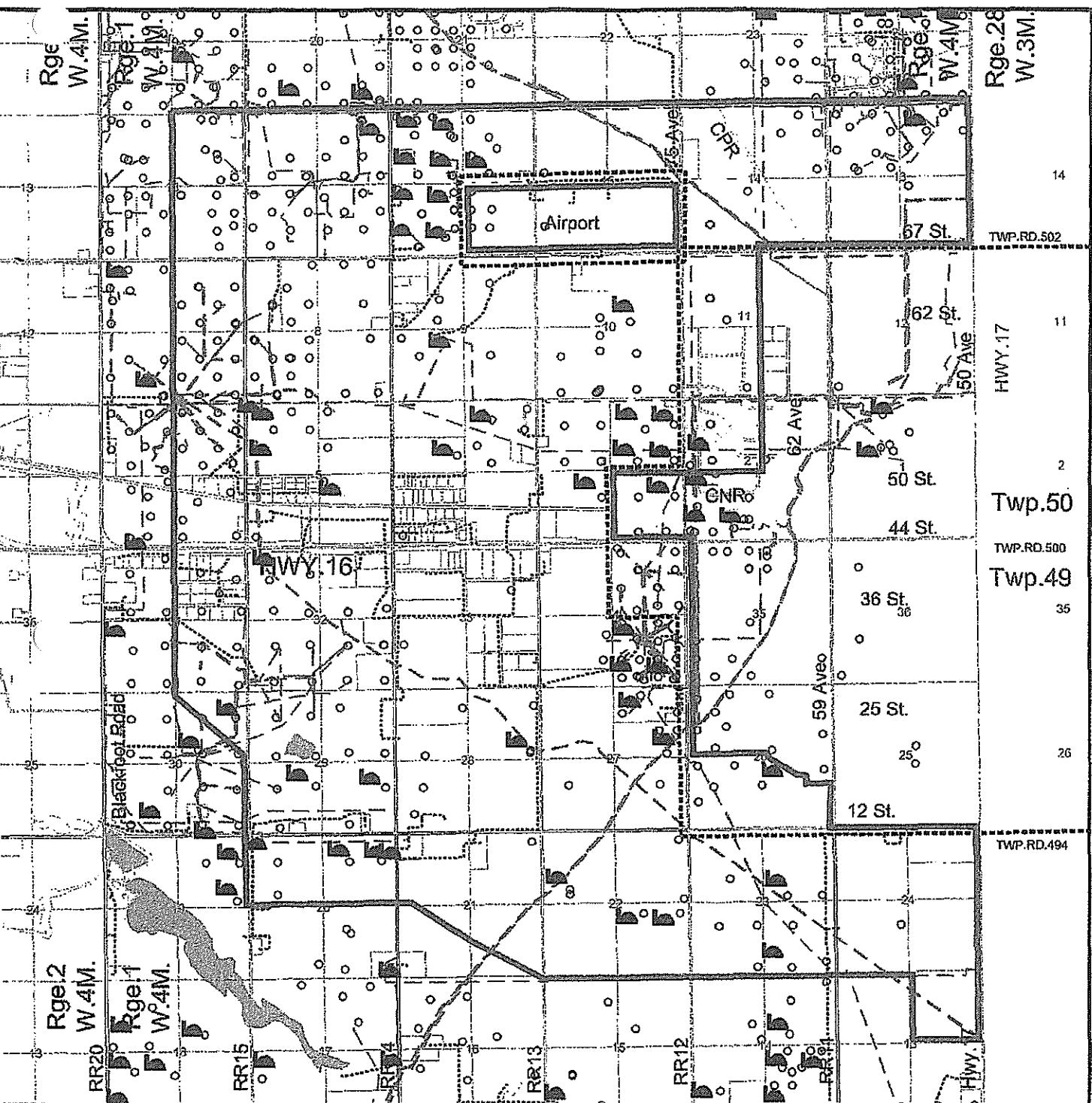
5. List the building types and the construction materials.

N/A

6. What is the size of the lot and individual buildings?

N/A

7. What is the zoning for the site?



Existing Oil / Gas Infrastructure
Map # 6

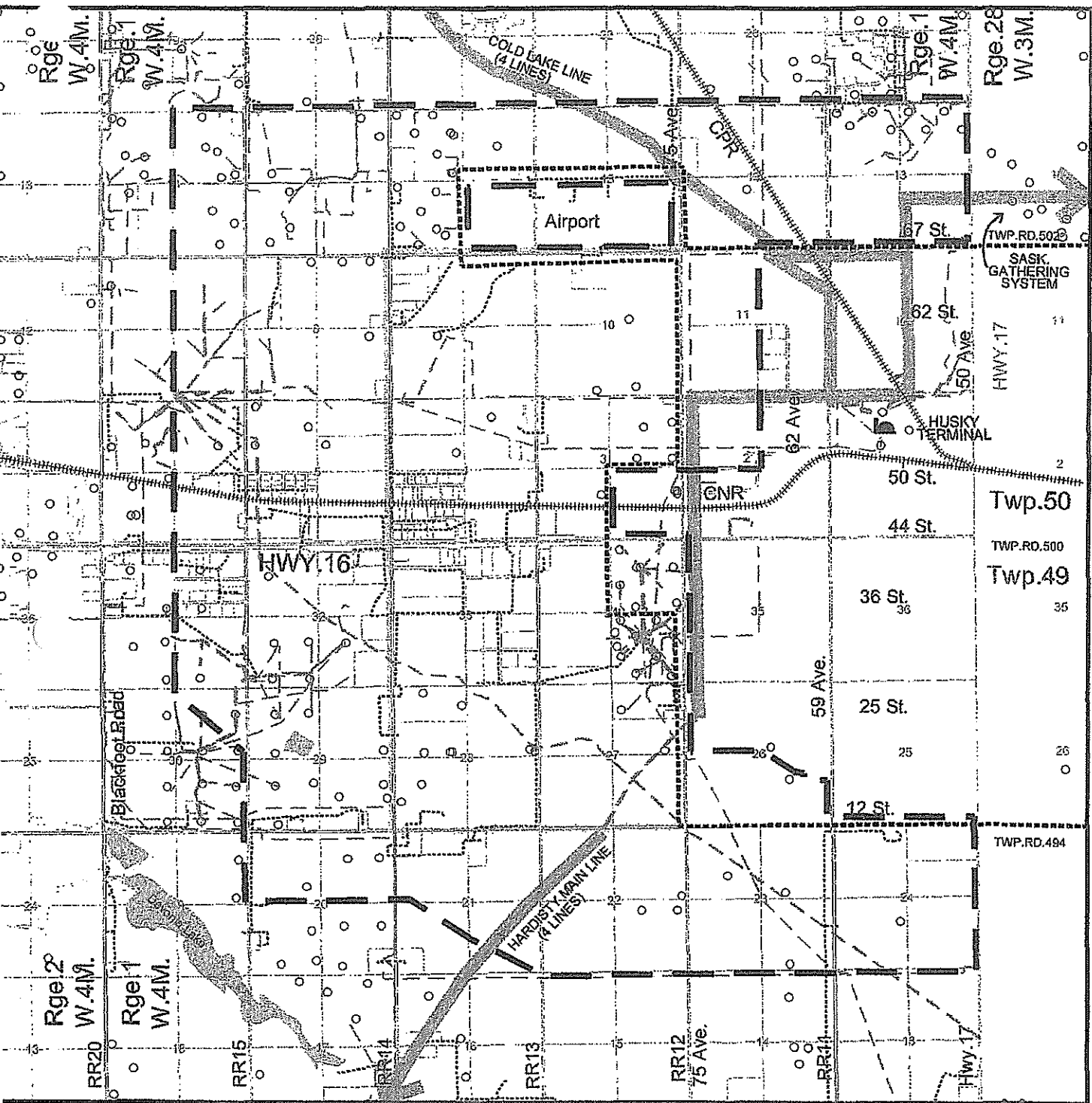
Vermilion River /
Lloydminster IDP

- Legend**
- Oil / Gas Well
 - Facility
 - - - High Pressure Pipeline
 - Low Pressure Pipeline

- IDP Boundary
- - - Lloydminster City Boundary

MATRIX PLANNING
G.T. Hofmann & Associates

Scale - 1:60 000



Legend

- Active Oil / Gas Well
- Facility (Refinery)
- - - High Pressure Transmission Pipeline
- - - Low Pressure Distribution Pipeline
- ▬▬▬▬ Future Pipeline Corridor
- ▬▬▬▬ IDP Boundary

Existing Oil / Gas Infrastructure
Map # 6

Vermilion River /
Lloydminster IDP

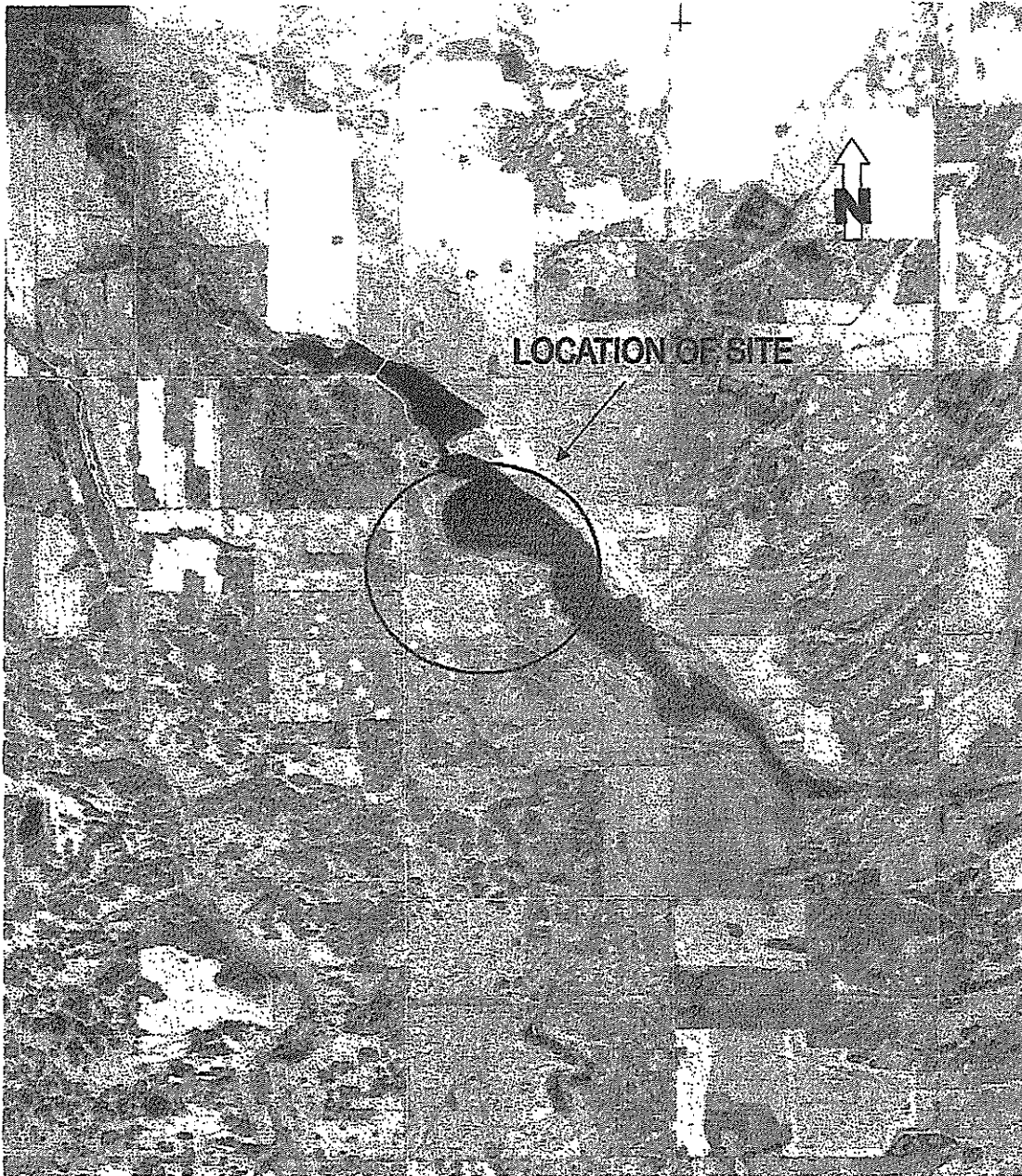
MATRIX PLANNING

G.T. Hofmann & Associates

Scale - 1:60 000

APPENDIX B

**HISTORICAL AERIAL PHOTOGRAPHS
AND SITE PHOTOGRAPHS**



AERIAL PHOTOGRAPH OF THE SITE AND SURROUNDING PROPERTIES
AERIAL PHOTOGRAPH TAKEN IN 1949



2PGL HOLDINGS
PHASE I ENVIRONMENTAL SITE ASSESSMENT
SW - 19 - 49 - 1 - W4M
LLOYDMINSTER, ALBERTA

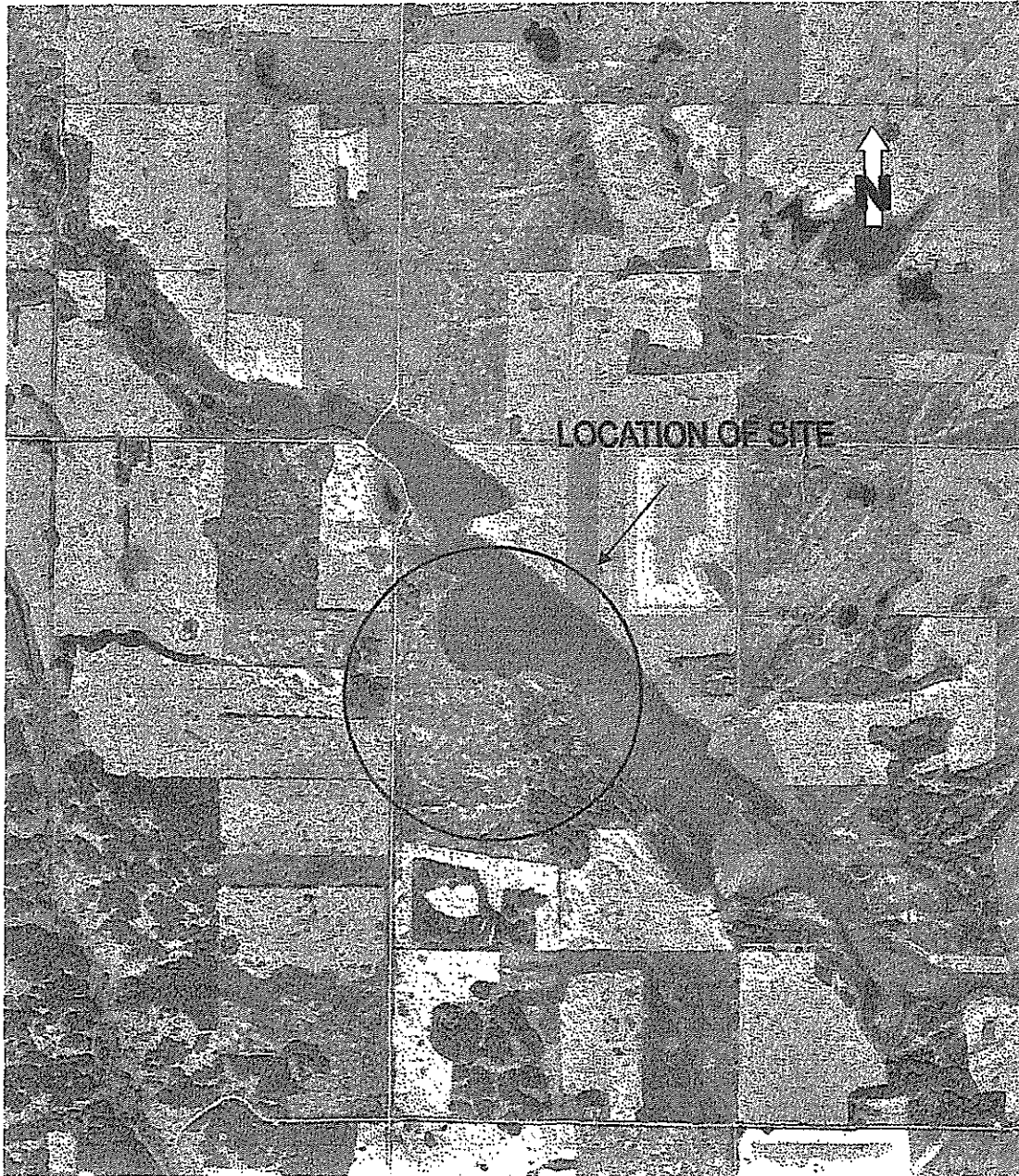
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Project No.: AX4762

Plate: 1



AERIAL PHOTOGRAPH OF THE SITE AND SURROUNDING PROPERTIES
AERIAL PHOTOGRAPH TAKEN IN 1965



2PGL HOLDINGS
PHASE I ENVIRONMENTAL SITE ASSESSMENT
SW - 19 - 49 - 1 - W4M
LLOYDMINSTER, ALBERTA

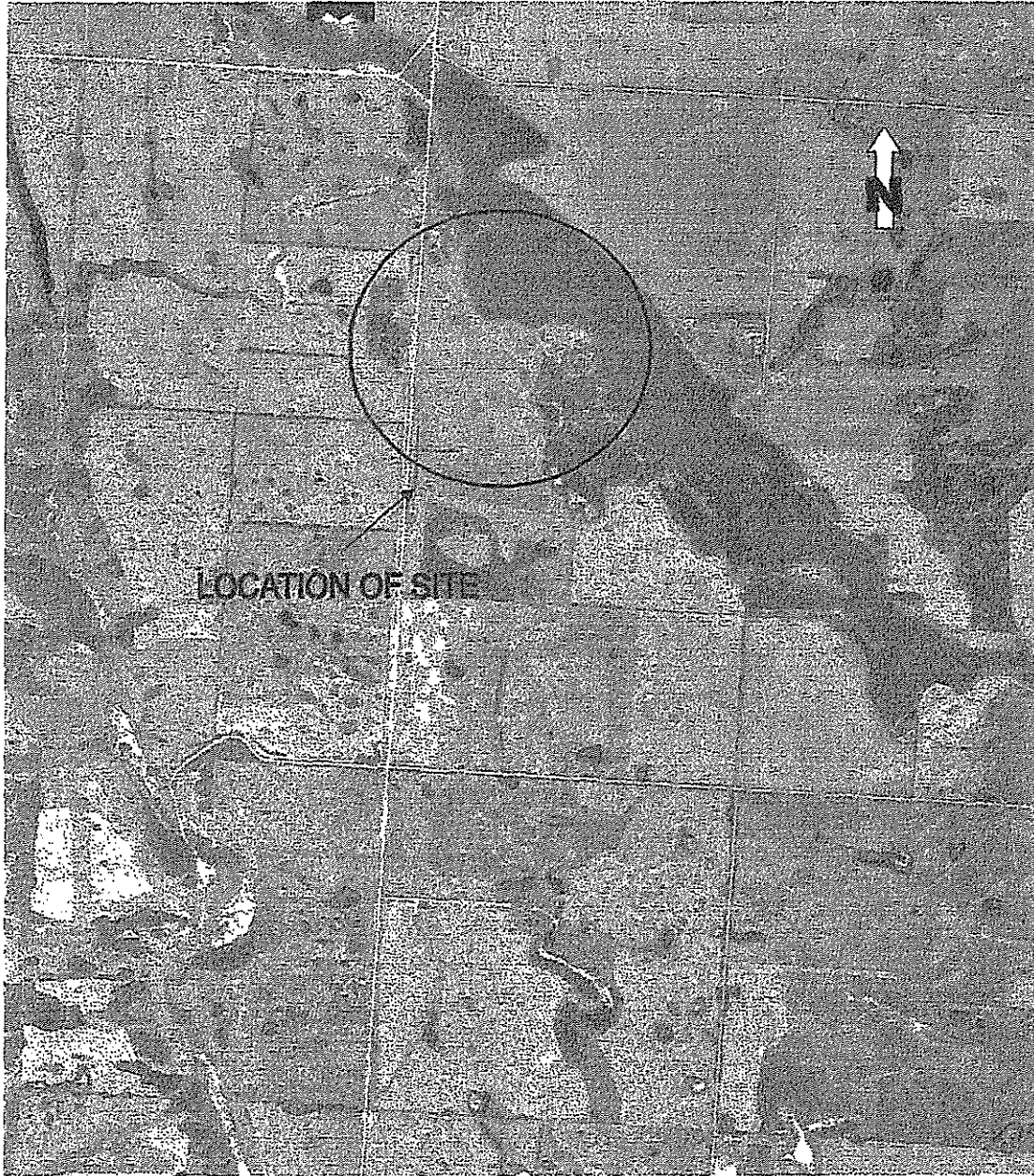
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Project No.: AX4762

Plate: 2



AERIAL PHOTOGRAPH OF THE SITE AND SURROUNDING PROPERTIES
AERIAL PHOTOGRAPH TAKEN IN 1975



2PGL HOLDINGS
PHASE I ENVIRONMENTAL SITE ASSESSMENT
SW - 19 - 49 - 1 - W4M
LLOYDMINSTER, ALBERTA

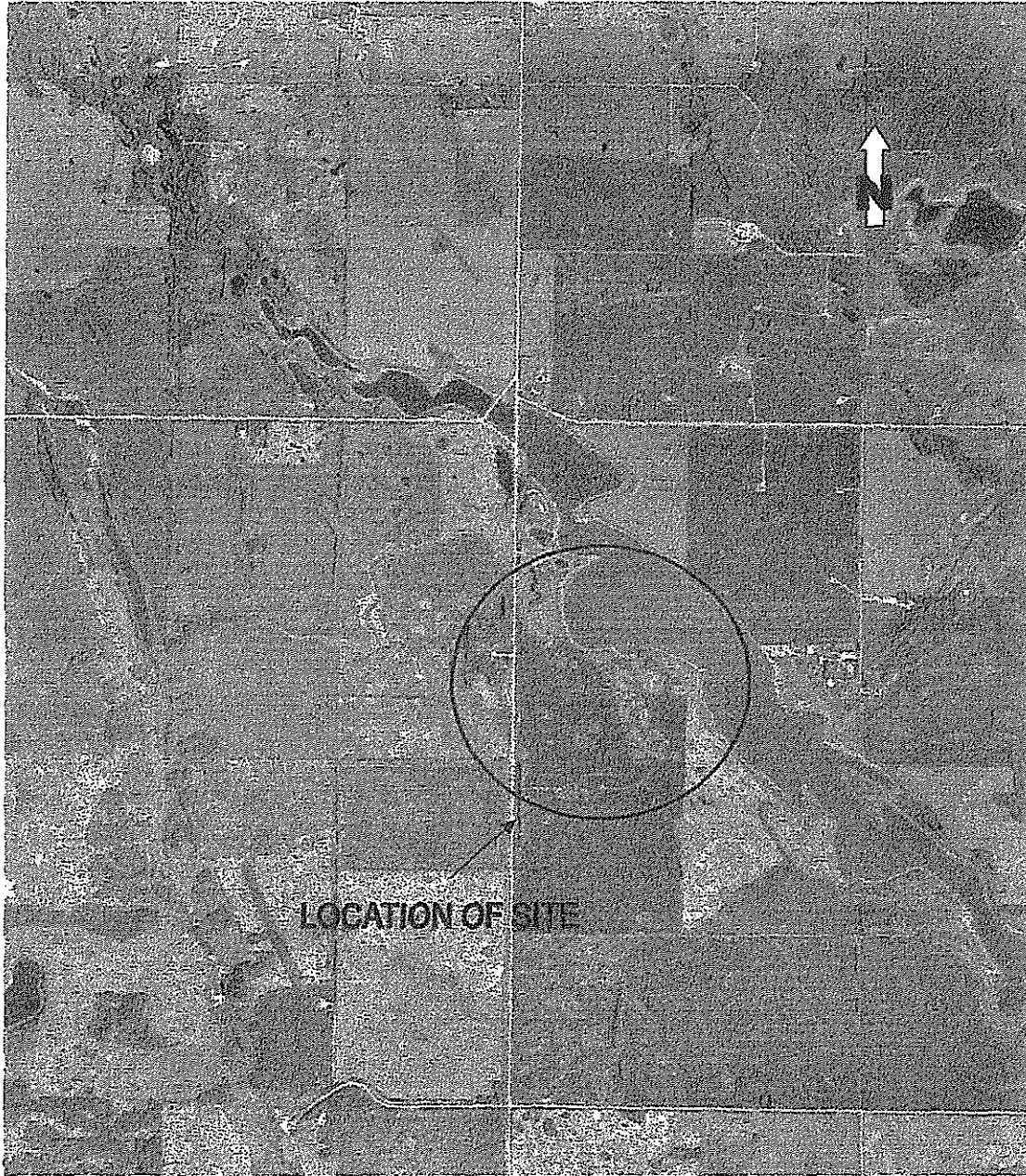
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Scale: 1 : 31680

Project No.: AX4762

Plate: 3



AERIAL PHOTOGRAPH OF THE SITE AND SURROUNDING PROPERTIES
AERIAL PHOTOGRAPH TAKEN IN 1982



2PGL HOLDINGS
PHASE I ENVIRONMENTAL SITE ASSESSMENT
SW - 19 - 49 - 1 - W4M
LLOYDMINSTER, ALBERTA

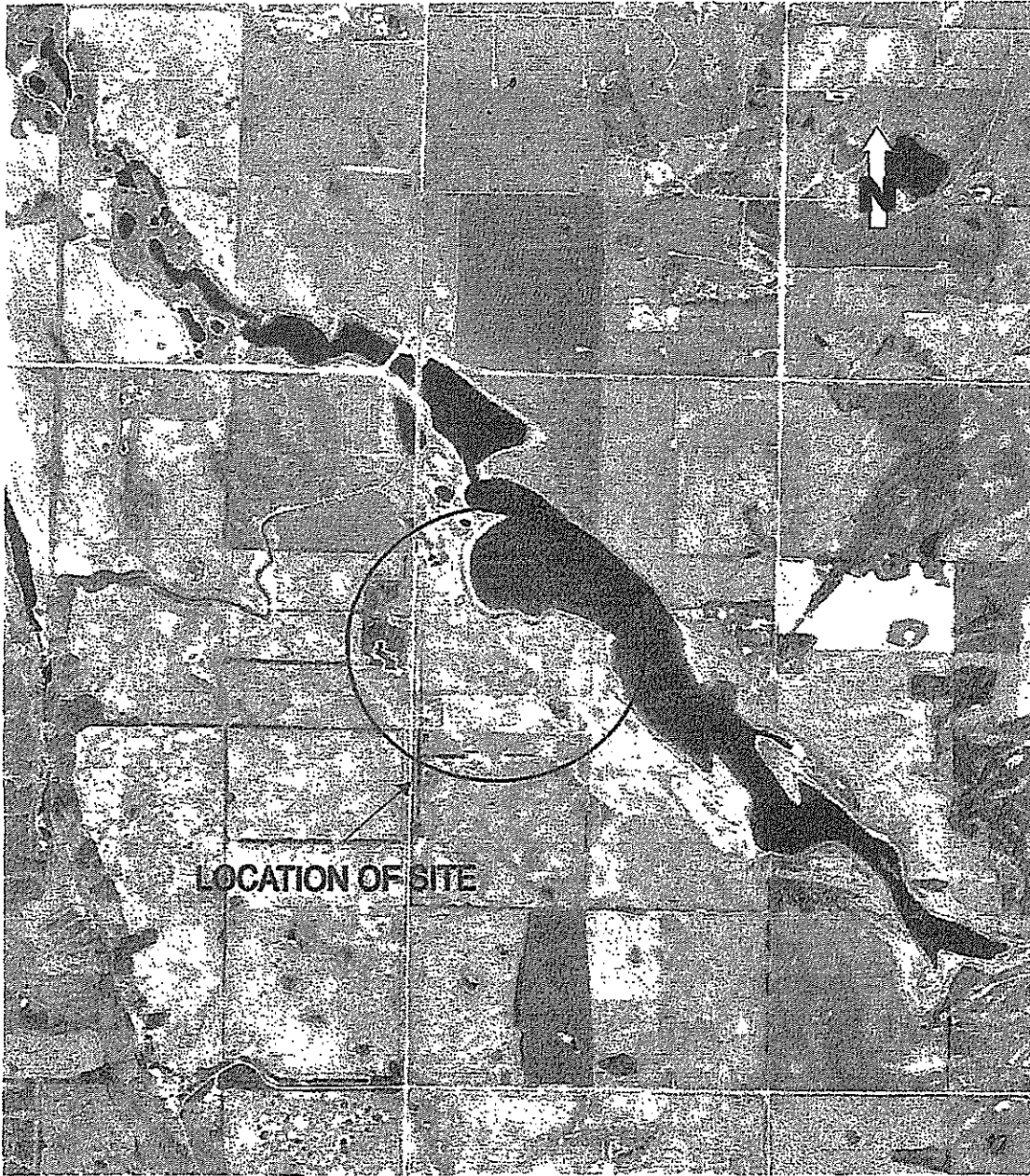
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Scale: 1 : 30000

Project No.: AX4762

Plate: 4



AERIAL PHOTOGRAPH OF THE SITE AND SURROUNDING PROPERTIES
AERIAL PHOTOGRAPH TAKEN IN 1991

amec

2PGL HOLDINGS
PHASE I ENVIRONMENTAL SITE ASSESSMENT
SW - 19 - 49 - 1 - W4M
LLOYDMINSTER, ALBERTA

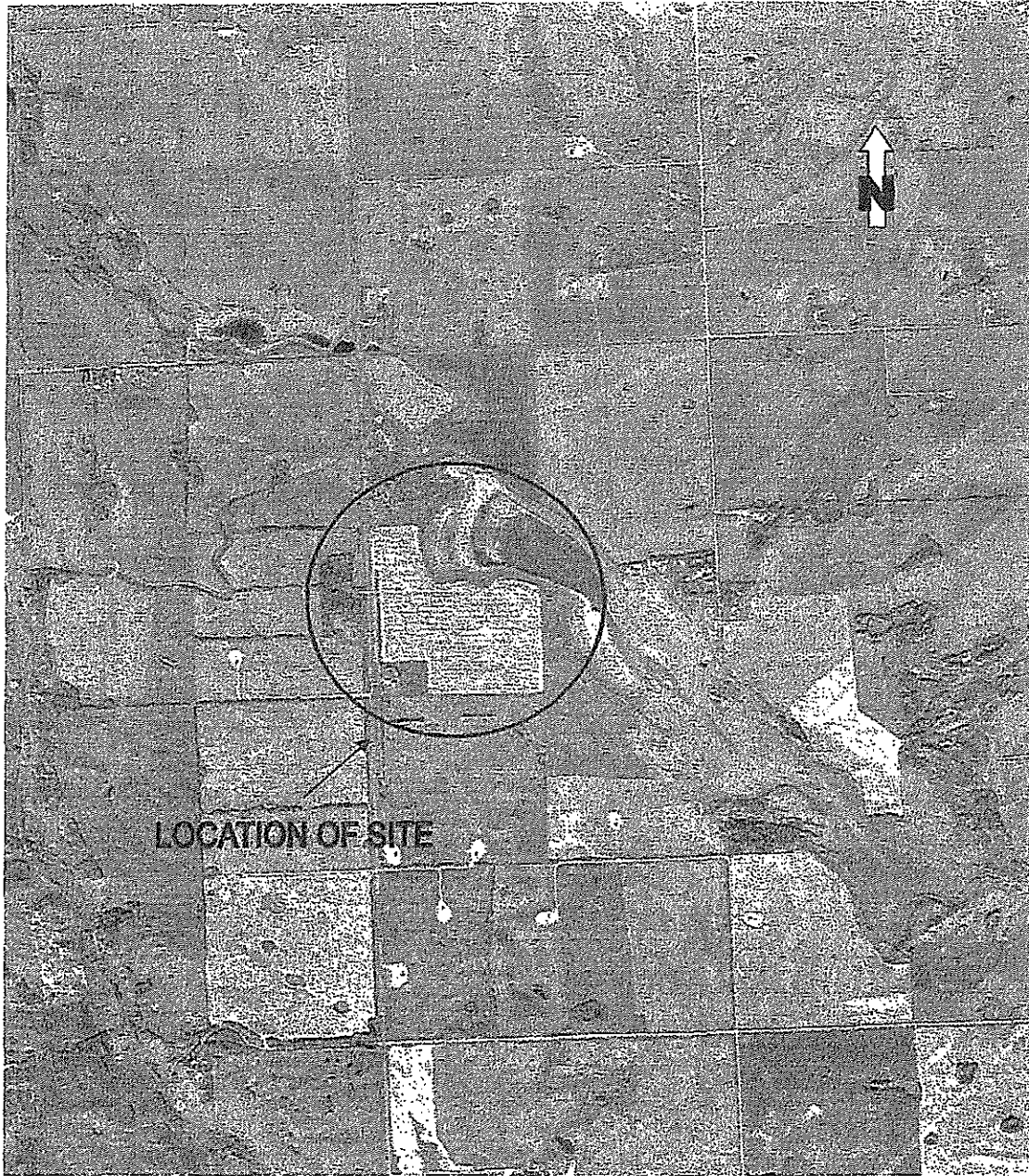
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Project No.: AX4762

Plate: 5



AERIAL PHOTOGRAPH OF THE SITE AND SURROUNDING PROPERTIES
AERIAL PHOTOGRAPH TAKEN IN 2001



2PGL HOLDINGS
PHASE I ENVIRONMENTAL SITE ASSESSMENT
SW - 19 - 49 - 1 - W4M
LLOYDMINSTER, ALBERTA

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Checked: PEL

Scale: 1 : 30000

Project No.: AX4762

Plate: 6



PHOTOGRAPH VIEWS WEST FROM THE NORTHEAST CORNER OF THE SITE ALONG DEVONIA LAKE



PHOTOGRAPH VIEWS NORTHEAST FROM THE SOUTHEAST CORNER OF THE SITE



2PGL HOLDINGS
PHASE I ENVIRONMENTAL SITE ASSESSMENT
SW - 19 - 49 - 1 - W4M
LLOYDMINSTER, ALBERTA

Made: TNS

Checked: PEL

Scale: NTS

Project No.: AX4762

Plate: 7

APPENDIX D

CORRESPONDENCE

ENVIRONMENTAL LAW CENTRE

204, 10709 - Jasper Avenue, Edmonton, AB T5J 3N3

Phone: (780) 424-5099 Fax: (780) 424-5133

E-Mail: elc@elc.ab.ca Home Page: <http://www.elc.ab.ca>

February 2, 2006

Our File: 006831

Mr. Paul Larsen
AMEC Earth & Environmental Limited
5406-52 Avenue
Lloydminster, AB T9V 2T5

Dear Mr. Larsen:

RE: Search Requested - SW 19-49-1-W4M

In response to your request of January 31, 2006, we have searched the Wellsite Reclamation Historical Search Service database for the following quarter section of land:

W4-01-049-19 SW1/4

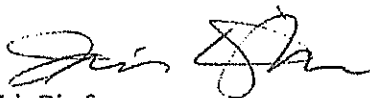
and can advise that as of today's date, there have been NO Reclamation Certificates (applied for, issued or cancelled), Reclamation Orders and Conservation and Reclamation Notices issued pursuant to the "Alberta Environmental Protection and Enhancement Act" and its predecessor legislation, the "Land Surface Conservation and Reclamation Act" and the "Surface Reclamation Act" since 1963.

Information offered by the Wellsite Reclamation Historical Search Service is limited to wellsites, oil production sites, pipelines, compressor sites and some sand and gravel operations on Alberta private land, Special Areas Board land constituted under the "Special Areas Act" and Metis Settlements established under the "Metis Settlements Act". Not included are coal or oil sands mines or exploration sites.

These search results are based on information provided by Alberta Environment ("AENV"). AENV advises that they try to provide the best information possible. However, AENV advises that it cannot guarantee that the information provided is complete or accurate and that any person relying on these search results does so at their own risk.

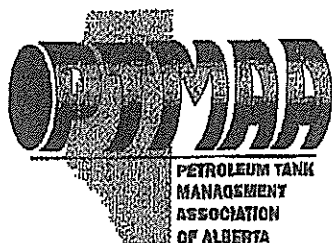
Information about Environmental Protection Orders, Emergency Environment Protection Orders and Enforcement Orders issued under the "Alberta Environmental Protection and Enhancement Act" can be obtained by searching the Environmental Enforcement Historical Search Service database through the Environmental Law Centre.

Yours sincerely,



Iris Djurfors
Wellsite Reclamation Search Service Coordinator
/id
Encl.

Site No.	Name	Area	LSO	QTR	SEC	TWP	RNG	MER	Health Unit	Owner	Status (Active/Inactive)	Site (Rem)	Priority Ranking	Overall Comments	Waste Types	Status	From	To	Design & Operation
400	Lloydminster	Blackfoot	SE	13	50	01	4		Milburn-Vermilion	Lloydminster (C)	A	2	2	Site of old refinery, SAU required.		14	0	Investigation planned for 1985.	
1717	Blackfoot Oil Storage			07	50	01	4							Clay fill, concrete, construction debris.	35	1981	0	Four groundwater monitoring wells around site. Site fenced.	
1983	Husky Oil Operations Ltd.	Lloydminster		01	50	01	4						(83-VL-104)		34	1983	1983	Four groundwater monitoring wells around the site. Site fenced.	
1984	Husky Oil Operations Ltd.	Lloydminster		01	50	01	4						(83-VL-104)	Spent pond sludge, top pit sludge.	34	0	0	Site fenced. Extensive investigation in 1987. Site fenced.	
1985	Husky Oil Operations Ltd.	Lloydminster		01	50	01	4						(83-VL-104)	Waste lime.	34	1060	1971	Underlain by Husky in 1987. Site fenced.	
1986	Husky Oil Operations Ltd.	Lloydminster		01	50	01	4						(83-VL-104)	Leased gasoline tank bottoms.	34	0	0	Extensive investigation in 1987. Site fenced.	
1987	Husky Oil Operations Ltd.	Lloydminster		01	50	01	4						(83-VL-104)	Off-spec. oily material, oil-spool asphalt.	34	0	1983	Extensive investigation in 1987. Site fenced.	
1988	Husky Oil Operations Ltd.	Lloydminster		01	50	01	4						(83-VL-104)	Dilute tank sludge.	34	0	1983	Extensive investigation in 1987. Site fenced.	
1989	Husky Oil Operations Ltd.	Lloydminster		01	50	01	4						(83-VL-104)	Spent lime.	34	0	1980	Extensive investigation in 1987. Site fenced.	
1990	Husky Oil Operations Ltd.	Lloydminster		01	50	01	4						(83-VL-104)	Oily wastes.	34	0	1984	Extensive investigation in 1987. Site fenced.	
1991	Husky Oil Operations Ltd.	Lloydminster		01	50	01	4						(83-VL-104)	Waste pipe barrels, spilled asphalt.	34	0	1980	Extensive investigation in 1987. Site fenced.	
1996	Husky Oil Operations Ltd.	Lloydminster		02	50	01	4						(83-VL-096)	Former site of foodak refinery. (83-VL-096)	33	0	1960	Extensive investigation in 1987. Site fenced.	
2000	Husky Oil Operations Ltd.	Lloydminster		02	50	01	4						(83-VL-096)	Company to supply environmental impact assessment. (83-VL-096)	18	0	1980	Extensive investigation in 1987. Site fenced.	
2001	Husky Oil Operations Ltd.	Lloydminster		02	50	01	4						(83-VL-096)	Oily wastes.	33	0	1980	Extensive investigation in 1987. Site fenced.	
2002	Husky Oil Operations Ltd.	Lloydminster		02	50	01	4						(83-VL-096)	Asphalt wastes, oily tank bottom wastes.	34	1089	1972	Extensive investigation in 1987. Site fenced.	
2003	Husky Oil Operations Ltd.	Lloydminster		02	50	01	4						(83-VL-096)	Asphalt tank bottoms.	34	0	0	Extensive investigation in 1987. Site fenced.	
2004	Husky Oil Operations Ltd.	Lloydminster		02	50	01	4						(83-VL-096)	Asphalt tank bottoms.	19	0	1980	Extensive investigation in 1987. Site fenced.	
2005	Mercan Energy Resources Ltd.	Lloydminster		19	50	01	4						Under ERCB jurisdiction.	Oily sand.	35	0	1970	Site to be reclaimed upon facility decommissioning.	



**Petroleum Tank Management
Association of Alberta**

Suite 980, 10303 Jasper Avenue
Edmonton, Alberta T5J 3N6
PH: (780)425-8265 or 1-866-222-8265
FAX: (780)425-4722

February 1, 2006

Paul Larsen
AMEC Earth & Environmental
5406 52 Avenue
Lloydminster, AB
T9V 2T5

Dear Paul Larsen:

As per your request, the PTMAA has checked the registration of active tank sites and inventory of abandoned tank sites and there are no records for the property with the legal land description:

SW 19-49-1-W4M, Vermilion River

Please note that both databases are not complete. The main limitation of these databases is that they only include information reported through registration or a survey of abandoned sites completed in 1992 and should not be considered as a comprehensive inventory of all past or present storage tank sites. The PTMAA **cannot** guarantee that tanks do not or have not existed at this location. Information in the databases is based on information supplied by the owner and the PTMAA cannot guarantee its accuracy. Information on storage tanks or on past or present contaminant investigations may be filed with the local Fire Department or Alberta Environment.

Yours truly,

A handwritten signature in black ink, appearing to read 'Connie Jacobsen', is written over a horizontal line.

Connie Jacobsen
PTMAA



Fax

To	Compliance Officer	From	Paul Larsen
Company	Alberta Transportation & Utilities Dangerous Goods Control	Direct Tel	+1(780) 875-8975
Fax	(780) 427-1044	Fax	+1(780) 875-1970
Charge no		Pages	1 of 1 (inc. this page)
File no	AX 4762	Date	31 January 2006
Fax operator	PL	Cc	

Subject

SW 1/4, Sec 19, Twp 49, Rge 1, W4M

Please accept this letter as your authorization to initiate an historical search of the above referenced project. We are performing an Environmental Site Assessment of the above referenced property and would like to know if there are any records of spills or environmental incidents that may have occurred on the site or the surrounding area.

Please fax one (1) copy of the results as soon as possible; Attention: Mr. Paul Larsen.

If you have any questions or require clarification on any matter, please do not hesitate to contact this office (Paul Larsen @ (780) 875-8975).

Respectfully submitted,

AMEC Earth & Environmental,
a Division of AMEC Americas Limited

Paul Larsen, C.E.T., C.E.S.A.
Manager of Technical Services
Lloydminster/Bonnyville

Dangerous Goods spills are recorded by
highway number and location or by
street address and municipality.
Our database is not capable of
searching LSD, Plan, Lot or Block.

LT, CIC, 31-Jan-2006

P:\AMEC Misc\Forms\Phase 1\FAX Requests\Dangerous Goods Control.doc

AMEC Earth & Environmental Limited
5406 - 52 Avenue
Lloydminster, Alberta
Canada T9V 2T5
Tel +1 (780) 875-8975
Fax +1 (780) 875-1970
www.amec.com

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are not the intended recipient please
notify us by telephone as soon as
possible and either return the message
by post or destroy it. If you are not the
intended recipient, any use by you of its
contents is prohibited.



Corporate Services
FOIP, Records and
Information Management
Branch

6th Floor, Petroleum Plaza South
9915 - 108 Street
Edmonton AB T5K 2G6

Telephone: (780) 427-4429
Fax: (780) 427-9838

Mr. Paul Larsen
AMEC Earth & Environmental Ltd.
5406 - 52 Avenue
Lloydminster, Alberta
T9V 2T5

FAXED FEB 09 2006

[Fax:] (780)875 - 1970
Your File #: AX4762
Routine Disclosure Request: 0178-RD-06

February 9, 2006

Dear Mr. Larsen:

Re: Request for Information Routinely Available under the Environmental Protection and Enhancement (EPEA) legislation. Request for Records Pertaining to the property located at SW Sec 19 Twp 49 Rge 1 W4M, Lloydminster, Alberta.

The following is in response to your request dated February 1, 2006 for the subject records.

Alberta Environment has not identified any routinely available records relating to the subject of your request, based on the search parameters you provided to this office. As a result of our findings, your Routine Disclosure request has been closed.

If you have any further questions or concerns, please write or call me at (780) 427 - 2253

Sincerely,

for Jerry Kolar,
Advisor



Corporate Services
FOIP, Records and
Information Management
Branch

6th Floor, Petroleum Plaza South
9915 - 108 Street
Edmonton, AB T5K 2G6

Telephone: (780) 427-4429
Fax: (780) 427-9838

Mr. Paul Larsen
AMEC Earth & Environmental Ltd.
5406 - 52 Avenue
Lloydminster, Alberta
T9V 2T5

FAXED FEB 01 2006

[Fax:] (780) 875 - 1970
Your File #: AX4762

February 1, 2006

Routine Disclosure Request: 0178-RD-06

Dear Mr. Larsen:

Re: Request for Information Routinely Available under the Environmental Protection and Enhancement (EPEA) legislation. Request for Records Pertaining to the Property Located at SW Sec 19 Twp 49 Rge 1 W4M, Lloydminster, Alberta.

Our office received your request for the subject records with the \$25.00 fee on February 1, 2006. We will make every effort to process your request within 30 days. If this timeline changes we will contact you. Enclosed is a receipt for the initial fee.

We have initiated the search for the records you requested as follows:

Location: SW Sec 19-Twp 49-Rge 1 W4M, Lloydminster, Alberta
10 to 15 miles SW of Lloydminster

Names: Lorie Peregrym, Glenda Peregrym

Time Frame: Historical search

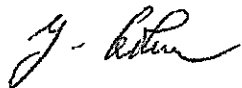
Records: Scientific/technical information which may include reports documenting the nature and extent of soil, ground and surface water contamination; remedial measures taken to clean-up the site or status of the site; and external correspondence between the submitter and the Department of Environment pertaining to the reports.

If this does not accurately reflect your request, please call me as soon as possible so we can amend the search. Once we receive and review the records you will be contacted.

In addition to the initial fee, you may be required to pay fees for services if the total fee for providing you with the records is expected to be greater than \$150.00. If costs are expected to exceed \$150.00 you will receive a fee estimate letter. [Note: the amount of fees charged for locating and retrieving a record, which is calculated at \$6.75 per ¼ hour, cannot be reduced if this service has already been provided.]

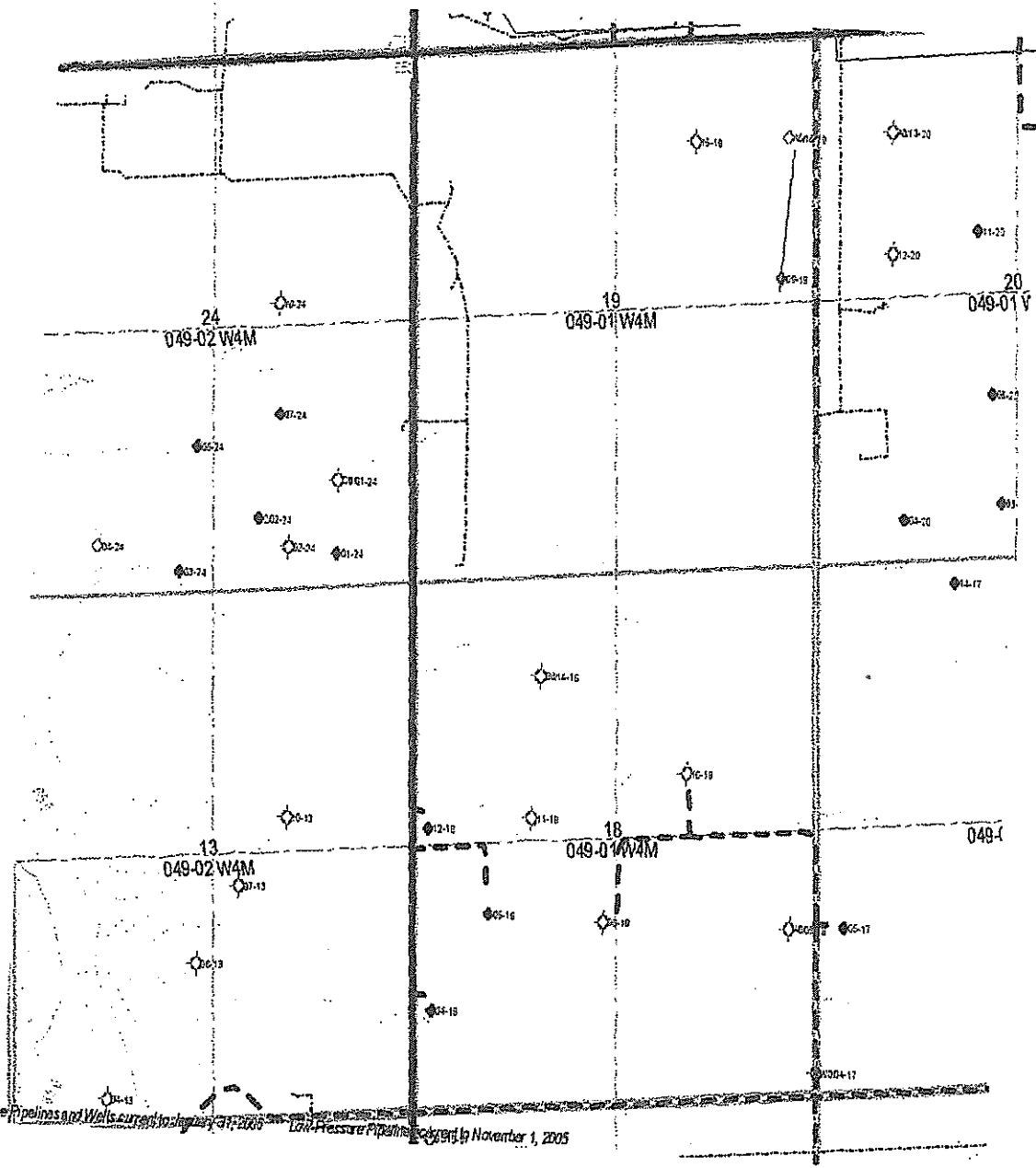
If you have any questions or concerns, please write or call me at (780) 427 - 2253.

Yours truly,

A handwritten signature in cursive script, appearing to read "J. Kolar".

Jerry Kolar,
Advisor

Enclosure (receipt)



NW 18-49-01-W4M:

WELL ID:	00 / 11-18-049-01 W4 / 0		
LICENCE #:	0240639	LICENCE DATE:	AUG 10, 2000
WELL NAME:	ARL 11B LLOYDMINSTER 11-18-49-1		
WITHIN:	11-18-049-01 W4		
LICENCEE:	DEVON ARL CORPORATION		
SPUD DATE:	AUGUST 23, 2000	FINAL DRILL DATE:	AUGUST 25, 2000
STATUS:	CR-OIL ABD	ABANDONED DATE:	JULY 25, 2003
SURFACE:	DOWNHOLE:		
OFFSETS:	S 734.7 E 465	OFFSETS:	S 734.7 E 465
LATITUDE:	53.227763	LATITUDE:	53.227763
LONGITUDE:	110.144666	LONGITUDE:	110.144666
GROUND ELEVATION:	677.2 m	TOTAL DEPTH:	632 m

WELL ID:	00 / 12-18-049-01 W4 / 0		
LICENCE #:	0225652	LICENCE DATE:	AUG 19, 1999
WELL NAME:	ARL 12B LLOYD 12-18-49-1		
WITHIN:	12-18-049-01 W4		
LICENCEE:	DEVON ARL CORPORATION		
SPUD DATE:	OCTOBER 2, 1999	FINAL DRILL DATE:	OCTOBER 5, 1999
STATUS:	CR-OIL PUMP	ABANDONED DATE:	
SURFACE:	DOWNHOLE:		
OFFSETS:	S 750 E 52	OFFSETS:	S 750 E 52
LATITUDE:	53.227621	LATITUDE:	53.227621
LONGITUDE:	110.150847	LONGITUDE:	110.150847
GROUND ELEVATION:	677.5 m	TOTAL DEPTH:	665 m

WELL ID:	B0 / 14-18-049-01 W4 / 0		
LICENCE #:	0014095	LICENCE DATE:	OCT 9, 1957
WELL NAME:	EXCELSIOR DEVONIA LLOYD 14B-18-49-1		
WITHIN:	14-18-049-01 W4		
LICENCEE:	KODIAK PETROLEUMS LTD.		
SPUD DATE:	OCTOBER 18, 1957	FINAL DRILL DATE:	OCTOBER 22, 1957
STATUS:	ABD	ABANDONED DATE:	OCTOBER 23, 1957
SURFACE:	DOWNHOLE:		
OFFSETS:	S 301.8 E 502.9	OFFSETS:	S 301.8 E 502.9
LATITUDE:	53.231651	LATITUDE:	53.231651
LONGITUDE:	110.144103	LONGITUDE:	110.144103
GROUND ELEVATION:	667.2 m	TOTAL DEPTH:	651.7 m

CRUDE OIL/BITUMEN		AVERAGE DAILY PRODUCTION RATE											
UNIQUE WELL ID	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
100/11-18-049-01W4/0	2000	0	0	0	0	0	0	0	0	0	1.47	3.299	12.41
	2001	8.129	14.075	5.527	4.403	0	0	0	0	0	0	0	0
100/12-18-049-01W4/0	1999	0	0	0	0	0	0	0	0	0	0	1.064	4.026
	2000	3.206	5.316	4.594	4.333	5.63	2.404	2.961	5.339	0	2.948	3.441	2.037
	2001	3.006	1.185	0	0	0	0	0	0	0	0	0	0
	2002	0	0	0	0	1.465	1.927	1.897	1	1.066	2.8	1.782	0

GAS		AVERAGE DAILY PRODUCTION RATE											
UNIQUE WELL ID	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
100/11-18-049-01W4/0	2000	0	0	0	0	0	0	0	0	0	0.005	0.011	0.043
	2001	0.057	0.1	0.036	0.028	0	0	0	0	0	0	0	0
100/12-18-049-01W4/0	1999	0	0	0	0	0	0	0	0	0	0	0.054	0.2
	2000	0.159	0.267	0.229	0.217	0.282	0.121	0.148	0.269	0	0.148	0.17	0.103
	2001	0.345	0.135	0	0	0	0	0	0	0	0	0	0
	2002	0	0	0	0	0.229	0.19	0.184	0.123	0.072	0.132	0.071	0

WATER		AVERAGE DAILY PRODUCTION RATE											
UNIQUE WELL ID	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
100/11-18-049-01W4/0	2000	0	0	0	0	0	0	0	0	0	1.44	3.15	6.184
	2001	8.3	7.25	5.273	0	0	0	0	0	0	0	0	0
100/12-18-049-01W4/0	1999	0	0	0	0	0	0	0	0	0	0	0.914	0
	2000	0.979	1.247	0.935	0.6	1.408	2.279	0.945	0	3.206	0.91	0	2.88
	2001	1.884	1.081	0	0	0	0	0	0	0	0	0	0
	2002	0	0	1.261	1.933	2.303	0.977	2.865	1.913	1.032	1.364	1.694	2.069

PRINT REPORT

VIEW IN EXCEL

CLOSE REPORT

WELL ID:	00 / 01-24-049-02 W4 / 2		
LICENCE #:	0284842	LICENCE DATE:	MARCH 21, 2003
WELL NAME:	HUSKY 1B LLOYDMINSTER 1-24-49-2		
WITHIN:	01-24-049-02 W4		
LICENCEE:	HUSKY OIL OPERATIONS LIMITED		
SPUD DATE:	JUNE 18, 2003	FINAL DRILL DATE:	JUNE 20, 2003
STATUS:	CR-OIL PUMP	ABANDONED DATE:	
SURFACE:	DOWNHOLE:		
OFFSETS:	N 99.6 W 302	OFFSETS:	N 99.6 W 302
LATITUDE:	53.235252	LATITUDE:	53.235252
LONGITUDE:	110.156457	LONGITUDE:	110.156457
GROUND ELEVATION:	665.6 m	TOTAL DEPTH:	660 m

WELL ID:	C0 / 01-24-049-02 W4 / 0		
LICENCE #:	0014088	LICENCE DATE:	OCTOBER 7, 1957
WELL NAME:	EXCELSIOR DEVONIA LLOYD 1C-24-49-2		
WITHIN:	01-24-049-02 W4		
LICENCEE:	EXCELSIOR REFINERIES LIMITED		
SPUD DATE:	OCTOBER 11, 1957	FINAL DRILL DATE:	OCTOBER 15, 1957
STATUS:	ABD	ABANDONED DATE:	OCTOBER 16, 1957
SURFACE:	DOWNHOLE:		
OFFSETS:	N 321.6 W 301.8	OFFSETS:	N 321.6 W 301.8
LATITUDE:	53.237246	LATITUDE:	53.237246
LONGITUDE:	110.156457	LONGITUDE:	110.156457
GROUND ELEVATION:	666.3 m	TOTAL DEPTH:	633.4 m

EUB WELL INFORMATION CURRENT TO JANUARY 31, 2006

PRINT REPORT

VIEW IN EXCEL

CLOSE REPORT

CRUDE OIL/BITUMEN		AVERAGE DAILY PRODUCTION RATE									
UNIQUE WELL ID	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER
100/01-24-049-02W4/2	2003	0	0	0	0	0	0	0	0	0	0
	2004	8.184	8.217	7.619	8.741	8.323	9.233	11.422	9.642	11.163	11.3
	2005	9.661	9.789	10.3	0	8.345	5.858	2.432	2.923	3.057	1.0
GAS		AVERAGE DAILY PRODUCTION RATE									
UNIQUE WELL ID	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER
100/01-24-049-02W4/2	2003	0	0	0	0	0	0	0	0	0	0
	2004	0.064	0.066	0.274	0.315	0.3	0.333	0.41	0.348	0.403	0.4
	2005	0.348	0.354	0.371	0	0.3	1.247	0.519	0.623	0.733	0.2
WATER		AVERAGE DAILY PRODUCTION RATE									
UNIQUE WELL ID	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER
100/01-24-049-02W4/2	2003	0	0	0	0	0	0	0	0	0	0
	2004	1.187	0.39	0.748	2.756	3.797	2.197	1.489	2.013	2.063	1.4
	2005	2.361	0.418	0.446	0	0.78	0.468	1.084	0.29	0.73	1.8

APPENDIX E

STANDARD TERMS AND CONDITIONS



AMEC EARTH & ENVIRONMENTAL, a division of AMEC Americas Limited
STANDARD TERMS AND CONDITIONS

- 1) **ENTIRE AGREEMENT.** Upon authorization by the CLIENT and commencement of performance hereunder, these terms constitute the entire agreement between the parties concerning its subject matter. Any changes or additional conditions proposed by CLIENT are hereby rejected, unless expressly stated in the Agreement or incorporated by a change order.
- 2) **CHANGES.** Upon receipt of notice from CLIENT of a change in the scope of the work hereunder, AMEC will promptly notify the CLIENT if there is an impact on the schedule, price or terms of the agreement. Thereafter, an estimate of any impact on the contract will be prepared and submitted to the CLIENT. The parties agree to promptly negotiate and implement changes to the Agreement. CLIENT acknowledges and agrees that its use of any purchase order or other form to procure services is solely for administrative purposes and in no event shall AMEC be bound to any terms and conditions on such form regardless of reference to or signature. CLIENT shall endeavor to reference this Agreement on any purchase order (or any other form), but CLIENT's failure to do so shall not operate to modify this Agreement.
- 3) **SITE INFORMATION AND ACCESS.** The CLIENT shall make available to AMEC all relevant information and documents under his control regarding past, present and proposed conditions of the site. The information shall include, but not be limited to, plot plans, topographic surveys, hydrologic data and previous soil and geologic data including borings, field or laboratory tests and written reports. The CLIENT shall immediately transmit to AMEC any new information that becomes available or any change in plans. The CLIENT shall also ensure uninterrupted site access for AMEC throughout performance of this Agreement.
- 4) **PERMITS AND UTILITIES.** Unless otherwise stated elsewhere, the CLIENT shall apply for and obtain all required permits and licenses and shall make all necessary arrangements for right of entry to provide AMEC access to the site for all equipment and personnel at no charge to AMEC. The CLIENT shall also provide AMEC with the location of all underground utilities and structures in the exploration area. AMEC is not responsible for location or identification of utilities.
- 5) **PAYMENT.** Unless otherwise stated in the Proposal, invoices will be submitted by AMEC either at the completion of the work or on a monthly basis and will be due and payable on the invoice date. Invoices not paid within thirty (30) days of the invoice date shall be subject to a late fee of one and one-half percent (1.5%) per month computed at 31 days from the date of invoice. In addition, any collection fees, attorney's fees, court costs, and other related expenses incurred by AMEC in the collection of delinquent invoice amounts shall be paid by CLIENT.
- 6) **OWNERSHIP RIGHTS.** Any documents produced by AMEC shall be the sole property of AMEC. At the request and expense of the CLIENT, AMEC shall provide the CLIENT with copies of any or all drawings, specifications and other documents prepared by AMEC.
- 7) **ATTORNEY'S FEES.** In the event either party makes a claim or brings an action against the other for any act arising out of the performance or interpretation of this agreement, including the payment of professional fees, the unsuccessful party shall pay all reasonable attorney's fees and legal costs incurred by the prevailing party in such claim or action.
- 8) **STANDARD OF CARE.** In the performance of professional services, AMEC will use that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession practicing in the same or similar localities. No warranty, either express or implied, is made or intended by this agreement or by furnishing oral or written reports of the findings. AMEC is to be liable only for damage proximately caused by the negligence of AMEC. The CLIENT recognizes that subsurface conditions may vary from those encountered at the location where borings, surveys or explorations are made by AMEC and that the data, interpretations and recommendation of AMEC are based solely on the information available to him. AMEC will not be responsible for the interpretation by others of the information developed.
- 9) **INSURANCE.** AMEC will maintain insurance for this Agreement in the following types: 1) worker's compensation insurance at statutorily required levels, 2) comprehensive general liability (CGL) insurance and 3) automotive insurance.
- 10) **ENVIRONMENTAL LIABILITY.** Because CLIENT owns operates the site where work is being performed, CLIENT has and shall retain all responsibility and liability associated with the environmental conditions at the site. Unless specifically identified elsewhere, CLIENT'S responsibility and liability includes the handling and disposal of any samples or hazardous materials generated on the site as a result of AMEC's performance hereunder.
- 11) **CONSEQUENTIAL DAMAGES.** AMEC shall NOT be responsible for any consequential, incidental or indirect damages.
- 12) **LIMITATION OF LIABILITY.** Notwithstanding any other provision of this Agreement, the total liability of AMEC, its officers, directors and employees for liabilities, claims, judgments, demands and causes of action arising under or related to this Agreement, whether based in contract or tort, shall be limited to the total compensation actually paid to AMEC for the Services or \$50,000, whichever is less. All claims by CLIENT shall be deemed relinquished unless filed within one (1) year after substantial completion of the Services.
- 13) **DISPUTES.** Any dispute arising hereunder shall first be resolved by taking the following steps, where a successive step is taken if the issue is not resolved at the preceding step: 1) by the technical and contractual personnel for each party performing this Subcontract, 2) by executive management of each party, 3) by mediation, 4) by arbitration if both parties agree or 5) through the court system of the jurisdiction of the AMEC office that entered this Agreement. CLIENT hereby waives the right to trial by jury for any disputes arising out of this Agreement.
- 14) **WARRANTY OR AUTHORIZATION TO SIGN.** The person signing this contract warrants that he has authority to sign as, or on behalf of, the CLIENT for whom or for whose benefit AMEC's services are rendered. If such a person does not have such authority, he agrees that he is personally liable for all breaches of this contract, and that in any such action against him for breach of such warranty, reasonable attorney's fees and legal costs shall be included in a judgement rendered.
- 15) **ASSIGNMENT.** Neither Client nor AMEC shall assign its interest in this Agreement without the written consent of the other except that AMEC may assign its interest in the Agreement to related or affiliated companies of AMEC without the consent of Client.
- 16) **CHOICE OF LAWS.** This Agreement shall be governed by the laws of the province of AMEC's office performing the work.



#1500 Baker Centre
10025-106 Street
Edmonton, Alberta, Canada
T5J 1G3

Phone: (780) 482-2557
Fax: (780) 482-2538
e-mail: dave.martz@sameng.com
Website: www.sameng.com

February 28, 2006

Our File: 785

Lorie and Glenda Peregrym
P.O. Box 96
Blackfoot, Alberta T0B 0L0

Attention: Lorie and Glenda Peregrym

Dear Mr. & Mrs. Peregrym:

**Re: Stormwater Management Plan for Proposed Subdivision,
SW 19-49 R1 W4M**

The landowner of the above referenced parcel is currently developing a plan to subdivide. The parcel will be subdivided into 30 residential lots, each with an approximate area of 1.2 hectares. The County of Vermilion River #24 requires a Stormwater Management Plan be completed before the subdividing can proceed. The landowner has commissioned Sameng Inc. to analyze the stormwater runoff behavior of the current and the developed parcel and recommend Best Management Practices to mitigate any possible impacts. The following outlines our methodology, findings and recommendations.

The parcel being subdivided covers approximately 45.4 hectares. The parcel and surrounding properties are mostly under agricultural cultivation with only a few residential sites in the vicinity. The major drainage feature in the area is Devonian Lake, which borders the northeast corner of this parcel. A conceptual site plan can be seen in Fig 1.1.

With subdividing this parcel, the amount of structures and infrastructure will increase; therefore the amount of impermeable surface will increase as the natural ground cover is replaced. The subdivision will be accessed from the existing Range Road 20, which runs north-south adjacent to the west side of the parcel. The individual lots will have accesses off the proposed road within the subdivision. Therefore, the new impermeable ground cover will be from new buildings, the new roadway within the subdivision, and lot accesses.

This decrease in permeable surfaces will result in an increase in runoff volumes. The proposed subdividing of this parcel will create 30 country residential lots; therefore the amount of increased runoff is not expected to be substantial. Based

on developed land imperviousness, the permeable ground cover is expected to decrease by 9.8% when the lots are fully developed.

This parcel currently conveys on-site and off-site drainage, see Fig 1.2 for a sketch of the drainage area considered, with the runoff flowing overland in a southwest to northeast direction. The parcel is a contributing area to Devonia Lake which has a constructed outlet to Blackfoot Creek that is licensed to the County of Vermillion River No. 24. There are currently no discernible flow paths in the property but the roadway and accompanying ditch construction will follow the general topography of the area.

To analyze the runoff behavior of this parcel, the increase in Devonia Lake water levels was investigated. A 1:100 year return period with a 24 hr rainfall event based on a Huff Distribution was utilized in this investigation. The increase in flow volume has been calculated assuming no outflow from Devonia Lake and the results are summarized in the table below:

Storm Frequency	Net Increase in Devonia Lake Water Levels
1:2 year	2.1mm
1:5 year	3.0mm
1:100 year	5.6mm

These values represent the maximum possible theoretical amount the lake levels could rise in such a storm event.

However, considering the shape of the basin and the fact that the proposed subdivision is adjacent to the lake while other larger contributing areas are farther away with a longer time of concentration, the peak runoff from the subdivision will occur well in advance of the larger runoff flows that would enter the lake from other contributing areas. Also, the theoretical values tabulated above are based on no outflow out of the lake however, in reality an outflow would exist, further decreasing the effects of the increased flow volume. Therefore it is likely that the lake, which has an area of approximately 101.4 hectares, would see no discernible increase in peak water levels with the development of this subdivision. Based on this, we conclude that Devonia Lake is an adequate outlet for this proposed development.

Also, based on the Blackfoot Devonia Water Management Preliminary Engineering Report, the 1:100 year lake level would be 656.1, as shown in Fig 1.1, and this would intrude very little on proposed development.

However, even though the water levels will not greatly increase, certain mitigation measures should be implemented to ensure the increased volume as well as the water quality do not become issues for this subdivision. The ditches along the proposed roadway will accommodate most of the excess volume as well as provide a buffer zone to decrease the flow rate of the water. To address increased

sediment issues, the ditches will be regrassed after the grading is complete to create a sediment trap and prevent erosion. Another measure that will lessen the impacts of the increased sediment is to incorporate two sediment micropools at the proposed outlets to the lake, as can be seen in Fig 1.1. These micropools will have a live storage of 125m³ each and based on a HEC-HMS model for a 1:2 year storm, 100% of sediment 75 microns or larger will be removed. Please refer to Fig 1.3 for a typical cross section of a sediment micropool. These micropools will be low maintenance and will need to be cleaned out once every 10 to 20 years. Two locations have been recommended for ditches leading to these sediment ponds, with culverts that should be no smaller than 500mm, thus complying with County of Vermilion River #24 specifications. These locations were chosen based on the existing topography thus the ditches along the roads should transport the flow without much alteration to the land profile. We also recommend transferring the control of the lands used for the sediment micropools as well as the connecting ditches to the County via a P.U.L., easement or Municipal Reserve.

The locations proposed for the ditches and sediment micropools are for conceptual purposes only. The final design and exact location may need to be modified based on the finalized layout.

Also, the following Best Management Practices are recommended:

- Keep disturbed lands to a minimal in order to minimize erosion potential due to overland flow,
- Minimize the amount of flow in internal lot road ditches. The road ditches should be lined for erosion protection where required.
- Provide a buffer around Devonia Lake of at least 30 meters to protect its shoreline and water quality.
- Ensure all buildings are at least one meter above 1:100 year lake levels of 656.1.
- Complete proper lot grading around buildings to ensure positive drainage away from buildings.

We do not believe that the works proposed here require licensing from Alberta Environment and by copy of this letter invite their comments. As all proposed works are not within the 1:100 year flood level of the lake, there should be no impact on possible fish habitat.

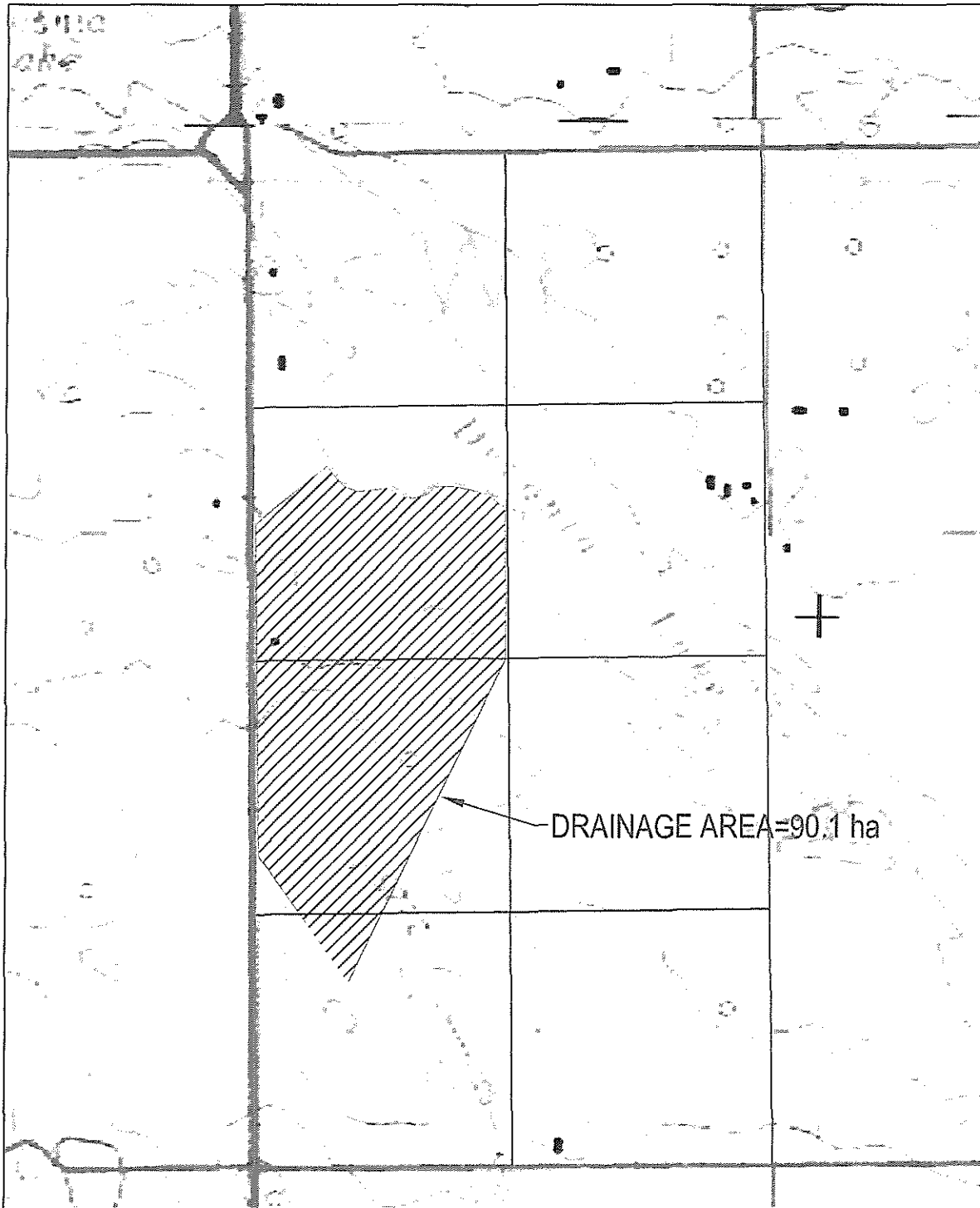
In conclusion, this parcel requires some mitigation due to the increase in volume. These measures, along with the above mentioned best management practices, will sufficiently mitigate the excess water.

Sincerely,

David Martz, P.Eng.
Sameng Inc.

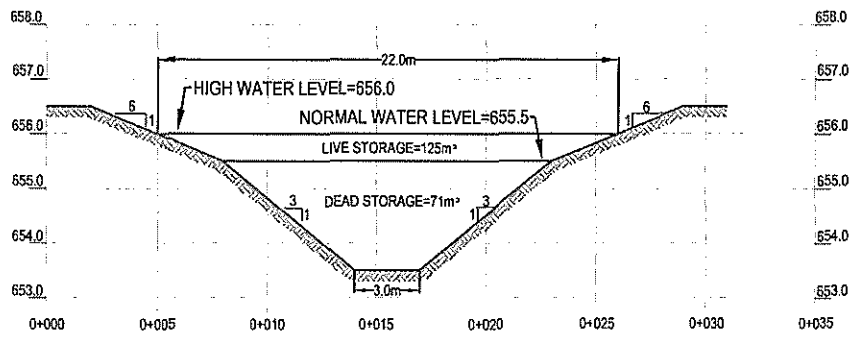
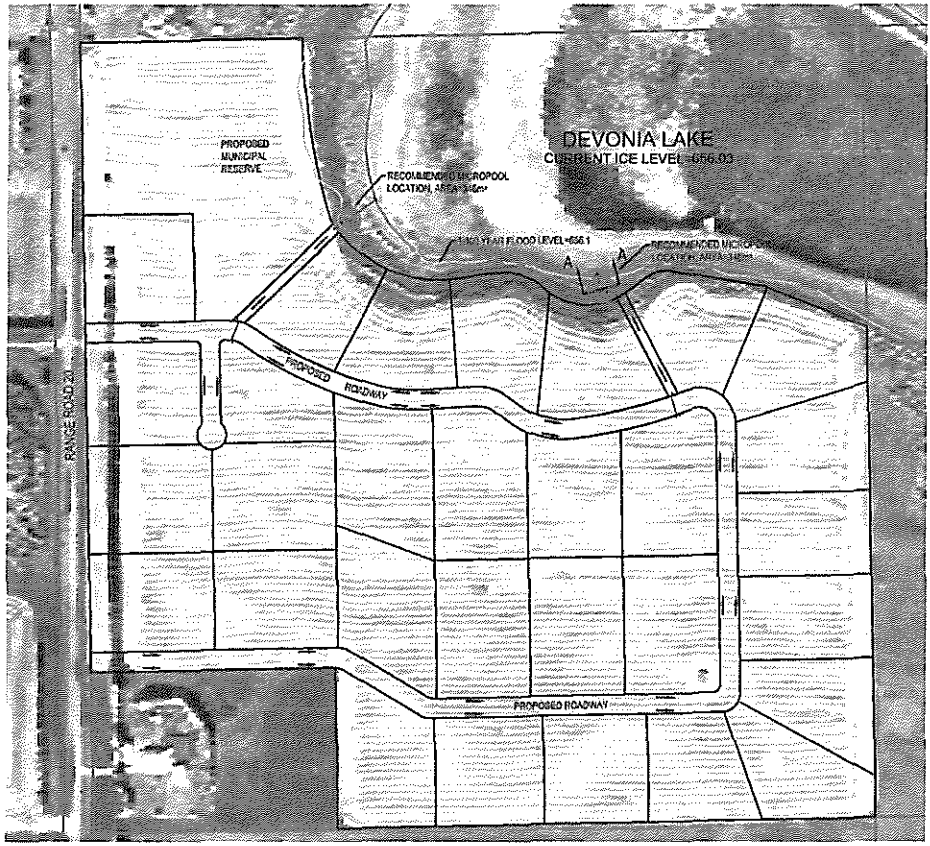
pg/DM

cc Doug Jeremy, Alberta Environment



Client	LORIE & GLENDA PEREGRYM	
Project	PEREGRYM SWMP	
Title	DRAINAGE AREA	

Designed By	-	Scale	N.T.S.
Checked By	D. MARTZ	Drawing No.	FIGURE 1.2
Drawn By	PJG		
Date	FEB 2006		



SECTION A-A: TYPICAL SEDIMENT MICROPOL
N.T.S.

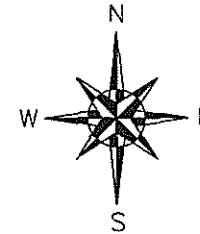


Client	LORIE & GLENDA PEREGRYM
Project	PEREGRYM SWMP
Title	TYPICAL SEDIMENT MICROPOL CROSS SECTION

Designed By	-	Scale	N.T.S.
Checked By	D. MARTZ	Drawing No.	
Drawn By	PJG		
Date	FEB 2006		

FIGURE 1.3

SW 19-49-1-W4



LEGEND

CONTOURS (0.5m INTERVAL)	— 0.5 —
INDEXED (EXISTING)	— 0.5 —
INTERM. (EXISTING)	— 0.5 —
PROPOSED CULVERT CROSSING	
DIRECTION OF OVERLAND FLOW	
DIRECTION OF DITCH FLOW	
POND OUTLET	
LEGAL PLAN	

DISCLAIMER: THIS SITE PLAN IS AN APPROXIMATE REPRODUCTION OF MATERIALS PROVIDED. SAVENG INC. IS NOT INVOLVED IN THE LOT LAYOUT OR ROAD DESIGN.

No.	Nature of Revision	By	Date



4500, 10025-105 Street, Edmonton, Alberta T5J 1G3
Ph: (780)462-2557 Fax: (780)462-2553

Seal	Permit

Client	Loris & Glenda Peregym
Project	Peregym SWMP
Title	CONCEPTUAL SITE PLAN

Designed By		Scale	1:4000
Checked By	D. MARTZ	Drawing No.	
Drawn By	PJG		
Date	FEB 2006		

FIGURE 1.1

Staging Plan

LakeView Estates will have 30 Country Residential lots that will be developed according to the following Phase Plan.

Phase I

Will consist of 7 parcels adjacent to RR20. These are Block 2, Lots 1-6 and Block, Lot 1 and Lot 16.

Service in this order will allow for construction of both entrances off RR20. With the paving of RR20, this will prevent damage to the surfacing project if entrance construction were done a later date.

In addition, clay will be required for the road. It will be serviced from;

- 1) Lots B2 L1 and B2 L2
 - Along RR20 is a ridge that, when cut down, will add to the aesthetics of these 2 lots, as well as provide a short haul source of road construction material.
 - Additional road construction material will be sourced at the settling pond located on the Municipal Reserve Land.

Phase II

Will consist of 8 lots;

- B1 L2 and B1 L3
- B2 (L7, L8, L13, L14)
- B1 L15, B1 L16

Road materials will cost effectively be sources from the settling pond on the Municipal Reserve and by cutting hilltops.

There should be little interference with existing acreages.

Phase III

Will consist of 7 lots;

- B2 L9, B2 L10
- B1 (L4, L5, L6, L7, L8)

Again, the impact on existing acreages should be minimal. Road materials will come from settling ponds, hilltops or cutting of ditches.

Phase IV

Will consist of 7 lots;

- B2 L11, B2 L12
- B1 (L9, L19, L11, L12, L13)



- Phase I
- Phase II
- Phase III
- Phase IV

Signage

A low maintenance sign would be constructed as part of the development along RR20 on B2 L3 featuring the LakeView Estate Development