



MULTICRETE SYSTEMS INC.

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February 25, 2014

Environmental Approvals Branch
Manitoba Conservation and Water Stewardship
Suite 160, 123 Main Street
Winnipeg, Manitoba R3C 1A5

Attention:

Tracey Braun, M.Sc.
Director
Environmental Approvals Branch

**Re: Environment Act Proposal
Concrete Products Batch Plant - Thompson, Multicrete Systems Inc.**

In response to your correspondence of January 17, 2014, attached is our submittal, with more descriptions of plant operations, for registration with your department of Concrete Products Batch Plant - Multicrete Systems Inc. - located on 47 Weir Road, Thompson, MB R8N 1X6.

Best Regards,

Georg Nickel, P. Eng.

President & CEO
Multicrete Systems Inc.



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Environmental Act Proposal (EAP)

Concrete Products Batch Plant - Thompson

February 25, 2014

Content

1. EAP Form
2. Operations Report – Thompson Plant (Appendix A)
3. Site Map & Photos (Appendix B)
4. 2013 Property Tax Bill & Business Tax Bill (Appendix C)
5. Land Titles & Surveyor's Staking Certificate (Appendix D)
6. Health, Safety and Environmental procedures (Appendix E)
7. Preventative Maintenance – Condition Inspection Plan (Appendix F)
8. Material Safety Data Sheets & Technical Data Sheets (Appendix G)

Environment Act Proposal Form



Name of the development:	
Type of development per Classes of Development Regulation (Manitoba Regulation 164/88):	
Legal name of the proponent of the development:	
Location (street address, city, town, municipality, legal description) of the development:	
Name of proponent contact person for purposes of the environmental assessment:	
Phone:	Mailing address:
Fax:	
Email address:	
Webpage address:	
Date:	Signature of proponent, or corporate principal of corporate proponent:
	Printed name:

A complete **Environment Act Proposal (EAP)** consists of the following components:

- **Cover letter**
- **Environment Act Proposal Form**
- **Reports/plans supporting the EAP** (see "Information Bulletin - Environment Act Proposal Report Guidelines" for required information and number of copies)
- **Application fee** (Cheque, payable to Minister of Finance, for the appropriate fee)

Submit the complete EAP to:

Director
 Environmental Approvals Branch
 Manitoba Conservation and Water Stewardship
 Suite 160, 123 Main Street
 Winnipeg, Manitoba R3C 1A5

For more information:

Phone: (204) 945-8321
 Fax: (204) 945-5229
<http://www.gov.mb.ca/conservation/eal>

Per Environment Act Fees Regulation (Manitoba Regulation 168/96):	
Class 1 Developments	\$500
Class 2 Developments	\$5,000
Class 3 Developments:	
Transportation and Transmission Lines	\$5,000
Water Developments	\$50,000
Energy and Mining	\$100,000

Appendix A

Operations Report – Thompson Plant



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Operations Report - Thompson Plant

February 25, 2014

Table of Contents

Executive Summary	3
1. Introduction and Background	3
2. Description of the Plant	4
2.1. Owner of Land	4
2.2. Certificate of Title	4
2.3. Land surveys	4
2.4. Batching Operation	4
2.4.1. Wet-mix process	4
2.4.2. Dry-mix process	4
3. Description of Existing Environment in the Plant Area	5
3.1. Biophysical environment.....	5
3.1.1. Terrain features	5
3.1.2. Climate.....	5
3.1.3. Aquatic environment	5
3.1.4. Terrestrial environment	5
3.2. Socioeconomic environment.....	5
3.2.1. Public safety risk	5
3.2.2. Protected areas	5
3.2.3. Heritage resources	5
4. Description of Environment and Human Health Effects of the Plant.....	6
4.1. Batching materials.....	6
4.1.1. Aggregates	6
4.1.2. Cementitious materials	6
4.1.3. Admixtures	6
4.1.4. Water supply.....	6
4.2. Potential impacts of the plant on the environment.....	6
4.2.1. Impact on biophysical environment	6
4.2.2. Pollutants	6
4.2.3. Hazardous wastes	7
4.2.4. Storage of gasoline and associated products	7
4.2.5. Impact on heritage resources	7
4.2.6. Socioeconomic implications.....	7
4.3. Potential impacts of the plant on Human health and safety	7
5. Mitigation measures and Residual Environment Effects.....	7
5.1. Mitigation of dust emissions	7
5.1.1. Dust collection systems	7
5.1.2. Smooth flow	7
5.1.3. Use of water.....	7
5.2. Recycling returned concrete.....	8
5.3. Spillage response.....	8
5.4. Material Safety Data Sheet (MSDS)	8
6. Follow-up, Monitoring & Reporting.....	8
6.1. Environmental guidelines.....	8
6.2. Preventive Maintenance Plan	8
7. Conclusions.....	8

Executive Summary

Multicrete Systems Inc. (MSI) has been operated a concrete products batch plant located on 47 Weir Road, Thompson for over 20 years.

The plant has a daily processing capacity of approximately 50 metric tons of crushed aggregate, and produces between 40 and 60 metric tons of shotcrete and ready mix concrete.

The operation of the plant requires an Environmental Licence as the activities of batching are in Class 1 Development.

The report highlights the process of the MSI Thompson concrete products batch plant and its impact on immediate environment.

In terms of impact to the environment, the main concerns are related to soil pollution, groundwater pollution, surface water pollution, air pollution, noise pollution, human health, and habitat destruction.

Mitigation measures are in place since the plant has been put in operation to reduce the environment degradation and avoid the spread of contaminants into the environment.

The Environment Act Proposal concludes that the plant operates within acceptable environment limits.

Therefore, for its plant in Thompson, MSI applies for the Environment Act Licence to the Manitoba Conservation and Water Stewardship by submitting an Environment Act Proposal.

1. Introduction and Background

MSI Plant is a permanent ready mix concrete plant certified by Manitoba ready Mix Concrete Association.

The plant combines sand, aggregate (rocks and gravel), fly ash, cement, admixtures and/or water to form concrete. The pre-mix concrete produced is either wet or dry depending on the clients' requirements.

For the wet mix concrete, the product will be put into mixer trucks for delivery to various locations within 100 km of the plant location. Therefore, the dry mix concrete is delivered as it is and mixed with water only on client's site .The main customers in the Thompson area are Vale mines and residential contractors.

The facility utilizes the following equipment and accessories in the batching process:

- Drum dryer, using propane for drying aggregate
- Mixer, for blending the dry components of the concrete
- Cement weigh hopper
- Aggregate weigh hopper
- Cement silos
- Aggregate bins
- Conveyors
- Batch plant controls
- Dust collectors
- Air compressor

2. Description of the Plant

2.1. Owner of Land

Registered owner is 4573464 Manitoba Ltd. Please see Appendices C and D.

2.2. Certificate of Title

Certificates of Title are: 1906760, 1906763 and 2456596 Portage Land Titles Office. Please see the attached Land Titles & Surveyor's Staking Certificate (Appendix D).

2.3. Land surveys

The attached Surveyor's Staking Certificate shows the land upon which the plant is built. Please see Appendices B & D.

2.4. Batching Operation

2.4.1. Wet-mix process

Prior to commencement of batching, a ready mix truck is positioned under the loading chute.

For each batch, the requisite batch ingredients (cementitious, water, aggregates and admixtures) are weighed or metered in a given sequence controlled by the batch plant computer. Cementitious is discharged by auger and gravity in a controlled manner from the silos; sand and coarse aggregates are discharged from the weigh-bins along a conveyor. Water and admixtures are added to the truck load by volume metering.

Dust emitting from the truck area is controlled via fine tuning of the batching sequence to deliver a smooth, controlled flow of raw material into the mixer with a combination of water addition to control dust emissions.

Once all materials are in the truck's mixing drum, the revolution speed of the drum is increased to mixing speed for travel on roads to the project site.

2.4.2. Dry-mix process

Aggregates and cementitious materials are mixed in the plant without addition of water.

Dry materials are packed into bags of appropriate size according to the future application and shipped to consumers.

Dry materials used for shotcrete are mixed with water, any admixtures, and accelerator at customer site. Specific equipment is designed for transporting pneumatically dry materials to a nozzle where water, any liquid admixtures and accelerator are introduced into the stream feed and then immediately sprayed onto the target surface's underground.

3. Description of Existing Environment in the Plant Area

3.1. Biophysical environment

3.1.1. Terrain features

The facility is located in the industrial light flat zone of the City of Thompson, where there are neither hills nor valleys. Lakes, rivers and wetlands are far from the facility. Lake Thompson is the nearest water body followed by Burntwood River, which are respectively about 1.5 km and 2.0 km from the plant.

The Water Treatment Plant of the City of Thompson owned by Vale is situated at 750 meters from MSI plant.

3.1.2. Climate

The prevailing climate and meteorological conditions of Thompson are marked by a subarctic climate, with long, bitterly cold winters, and short but warm summers. Monthly mean temperatures range from minus 23.9 °C in January to plus 16.2 °C in July, and the annual mean is minus 2.9 °C.

Though a majority of the annual precipitation of 509 millimeters falls from June to September, winter is by no means devoid of precipitation. Snow falls mainly from October to May, with generally small accumulation in June and September, totaling 187 centimeters per year. (Source: http://en.wikipedia.org/wiki/Thompson,_Manitoba).

3.1.3. Aquatic environment

Regarding the aquatic environment, there is no waterbody in the immediate surroundings of the industrial light zone that could be affected by the plant.

3.1.4. Terrestrial environment

The nearby industrial zone is characterized by sparse trees and vegetation. However, in the surroundings of the facility, there is no presence of any rare, threatened or endangered species or any important or sensitive species and/or habitats.

3.2. Socioeconomic environment

3.2.1. Public safety risk

There is no public safety risk related to plant operations.

3.2.2. Protected areas

There are no national and provincial protected parks in immediate area.

3.2.3. Heritage resources

The Heritage Museum is at approximately 2.5 km away from the plant.

4. Description of Environment and Human Health Effects of the Plant

4.1. Batching materials

4.1.1. Aggregates

Aggregates typically consisting of a single sand (5mm down) and a single gravel or crushed stone (10 mm to 20 mm max) are delivered to the yard by dump trailer trucks.

The aggregates are stored in stockpile areas and storage bins at the plant. The amount on site at any one time will vary with the needs of the market.

4.1.2. Cementitious materials

Portland cements of various types and fly ash are stored in elevated silos by bulk tanker trucks.

Each truck is equipped with an air blower system which enables it to blow the cement or fly ash into the appropriate silo.

4.1.3. Admixtures

In order to impart particular properties to the concrete mixture, admixtures are used in the batching process. The mentioned admixtures are supplied by a tanker truck of Sika Canada as bulk liquids and stored on site.

Small plastic containers proved by SIKA are used for specialty mixes.

4.1.4. Water supply

Potable water for production is supplied from Vale Water Treatment Plant. The water is used for the following purposes:

- Mix water for batching concrete loads in the wet-process
- Filling truck-mounted water tank
- Dust suppression in the plant yard in high traffic areas

4.2. Potential impacts of the plant on the environment

4.2.1. Impact on biophysical environment

No impact of actual plant operations on wildlife, fisheries, surface water, groundwater, and forestry resources. Please see base maps and aerial photographs in attached documents.

4.2.2. Pollutants

Major emissions come from:

- aggregate Dryer: exhausts of combustion products of propane in the atmosphere
- dust particle emissions: the batching process generates dust

In addition, the operation can generate wastes in the form of excess concrete being brought back to the concrete batching plant within agitator trucks. In such case, all of this excess concrete is used to build precast concrete blocks used for several commercial purposes.

4.2.3. Hazardous wastes

Any hazardous waste is disposed of at the City of Thompson Landfill site according to their guidelines.

4.2.4. Storage of gasoline and associated products

The storage of gasoline and associated products is executed as follow:

- On-site 250 liter diesel tanks with spill containment precautions
- Oil for maintenance of batching equipment, wheel loaders, and vehicles in shop with spill containment
- Used oils: removed from site by a disposal company

4.2.5. Impact on heritage resources

There is none.

4.2.6. Socioeconomic implications

There are no socioeconomic implications resulting from environmental impact.

4.3. Potential impacts of the plant on Human health and safety

There is no potential impact on human health and safety resulting from any release of pollutants from the plant.

5. Mitigation measures and Residual Environment Effects

5.1. Mitigation of dust emissions

5.1.1. Dust collection systems

The plant is equipped with dust collection systems (in bagging area, aggregates bins area, silos area and drying process) which have bag-houses used to control dust emissions from cement, fly ash and aggregates. These emissions occur when materials are loaded into silos, bins and hoppers.

Dust collectors are inspected and cleaned on a monthly basis, and the fines are put back into the process.

The use of dust collection system mitigates any potential impacts of dust as air pollutant on the environment.

5.1.2. Smooth flow

Dust emitting from the truck area is controlled via fine tuning of the batching sequence to deliver a smooth and controlled flow of raw material into the mixer with a combination of water addition to control dust emissions.

5.1.3. Use of water

As said above, the water is used to mitigate dust impacts in the high traffic areas of the plant yard.

5.2. Recycling returned concrete

Where operational and quality control restraints allow, any excess returned concrete is used to build precast as mentioned above.

5.3. Spillage response

In case of spillage, the plant responds according to the company spill response plan described in the spill containment procedure. Some Health, Safety and Environment (HSE) procedures related to handling diesel fuel and indoor storage/usage of flammable liquids are attached to this report as a reference (Appendix E).

5.4. Material Safety Data Sheet (MSDS)

Each raw materials supplier provides an up-to-date MSDS documentation for the raw materials that are delivered and used in mixed concrete.

The plant has also its own MSDS documentation for each type of mixed concrete produced and delivered.

MSDS sheets and some Technical Data sheets are attached (Appendix G) for the following chemicals:

- Plastocrete 161 HE: Water-reducer / retarder meeting ASTM C494/C494M. The product is an aqueous solution of lignosulfonate, amine, and compound carbohydrates.
- Sika AER: Air entraining agent meeting ASTM C949 C494M. The product is an aqueous solution of neutralized resin acids and rosin acids.
- Portland cement, Silica fume, Viscocrete, SikaTard 930, and Target Set Accelerator.

6. Follow-up, Monitoring & Reporting

6.1. Environmental guidelines

To ensure all environmental concerns, and precautions have been addressed and met, the MSI Plant follows the *Recommended Guideline for Environmental Practices for Canadian Ready Mixed Concrete Industry, Canadian Ready-Mixed Concrete Association (CRMCA), Mississauga - Ontario, May 2004*.

6.2. Preventive Maintenance Plan

Continual improvement of MSI performance is one of the permanent objectives. To achieve this goal, MSI has set in place a preventive maintenance program of its equipment. The program is performed through weekly checks that allow flexibility to react quickly to defect opportunities. Please find the plant maintenance checklist named "*PM-Condition Inspection*" in Appendix F.

7. Conclusions

The EAP is completed in accordance with Manitoba Conservation's Advice for a Class 1 Development. The report has highlighted the process of the MSI Thompson concrete products batch plant and its impact on immediate environment.

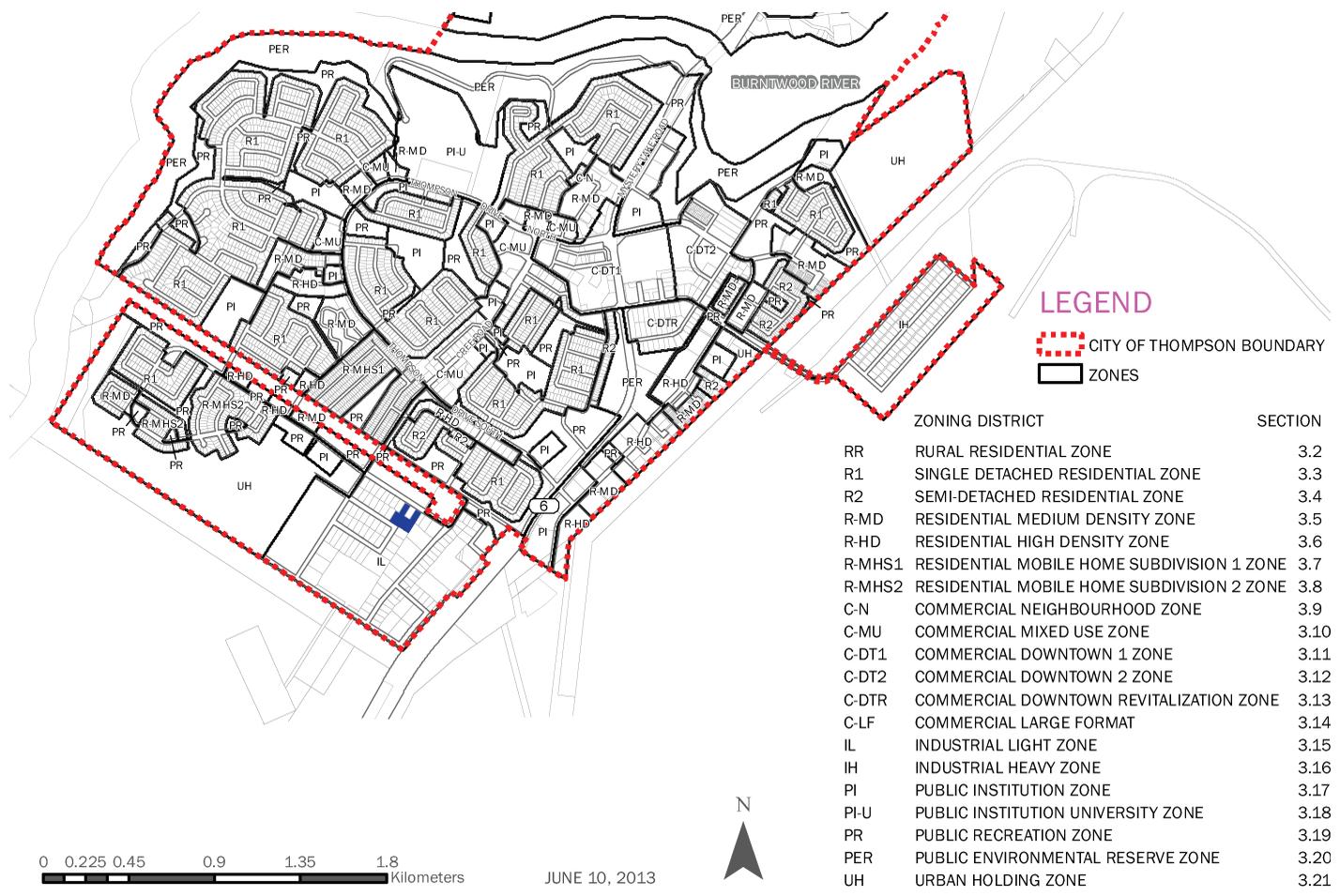
It has been demonstrated through this report that Thompson Plant operates with respect to its surrounding environment.

Therefore, specific equipment and processes are used since the facility exists to mitigate any environment issue from the plant operations.

To sum up, the report shows that the plant operates within acceptable environment limits.

Appendix B

Site Map & Photos



LEGEND

- CITY OF THOMPSON BOUNDARY
- ZONES

ZONING DISTRICT	SECTION
RR	3.2
R1	3.3
R2	3.4
R-MD	3.5
R-HD	3.6
R-MHS1	3.7
R-MHS2	3.8
C-N	3.9
C-MU	3.10
C-DT1	3.11
C-DT2	3.12
C-DTR	3.13
C-LF	3.14
IL	3.15
IH	3.16
PI	3.17
PI-U	3.18
PR	3.19
PER	3.20
UH	3.21

0 0.225 0.45 0.9 1.35 1.8 Kilometers

JUNE 10, 2013





MSI-Lots 1, 3, 19

MSI-55 Weir Road (site cleared 2010) MSI-47 Weir Road (original plant)

Weir Rd

Multicrete Systems Inc. - Thompson

4

3

2

1

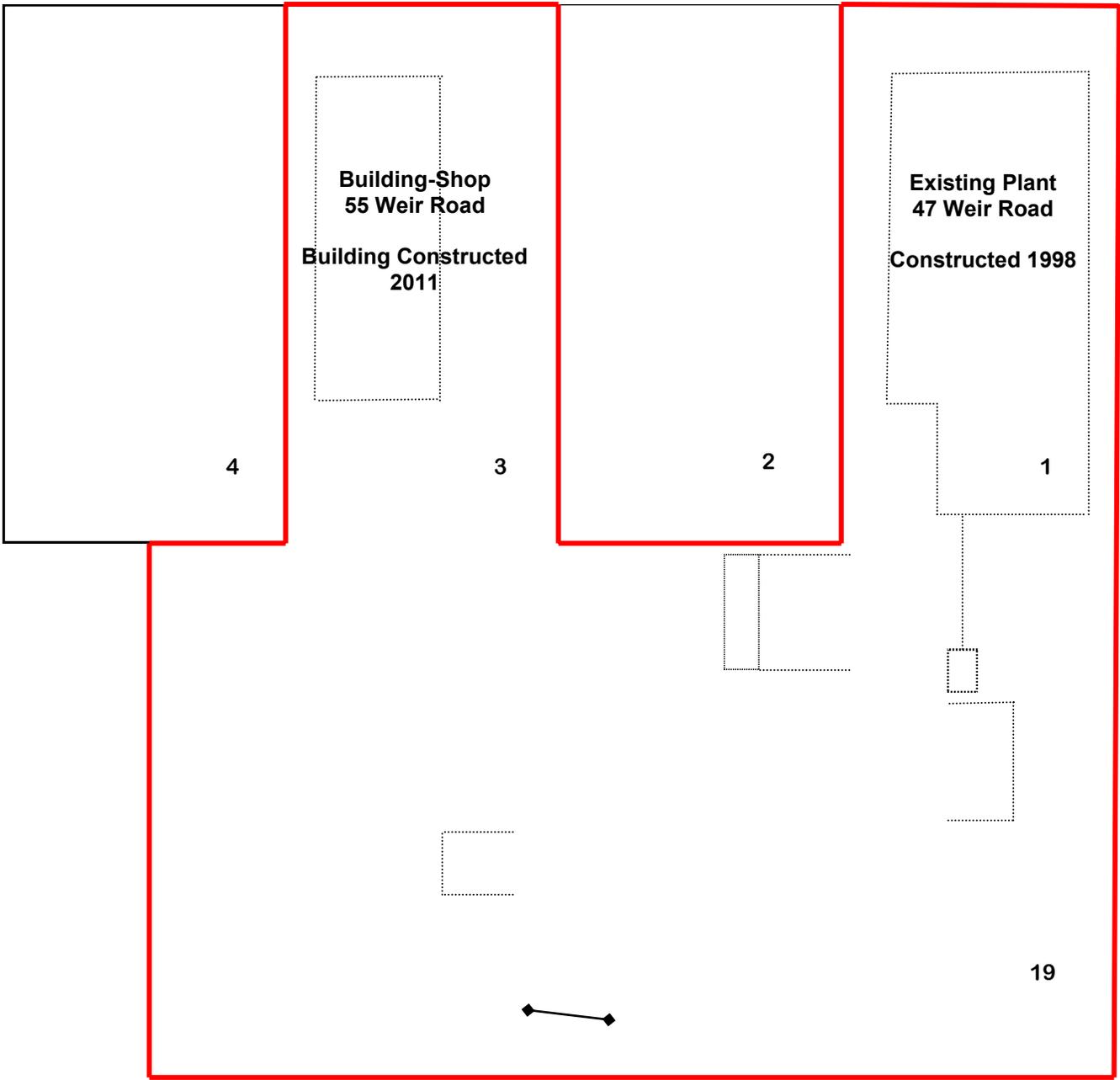
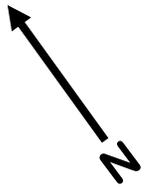
19

©2009 Google

Imagery Date: Jul 23, 2005

55°43'55.55" N 97°52'05.53" W elev. 692 ft

Eye alt 1615 ft



**Building Shop
55 Weir Road
Building Constructed
2011**

**Existing Plant
47 Weir Road
Constructed 1998**

4

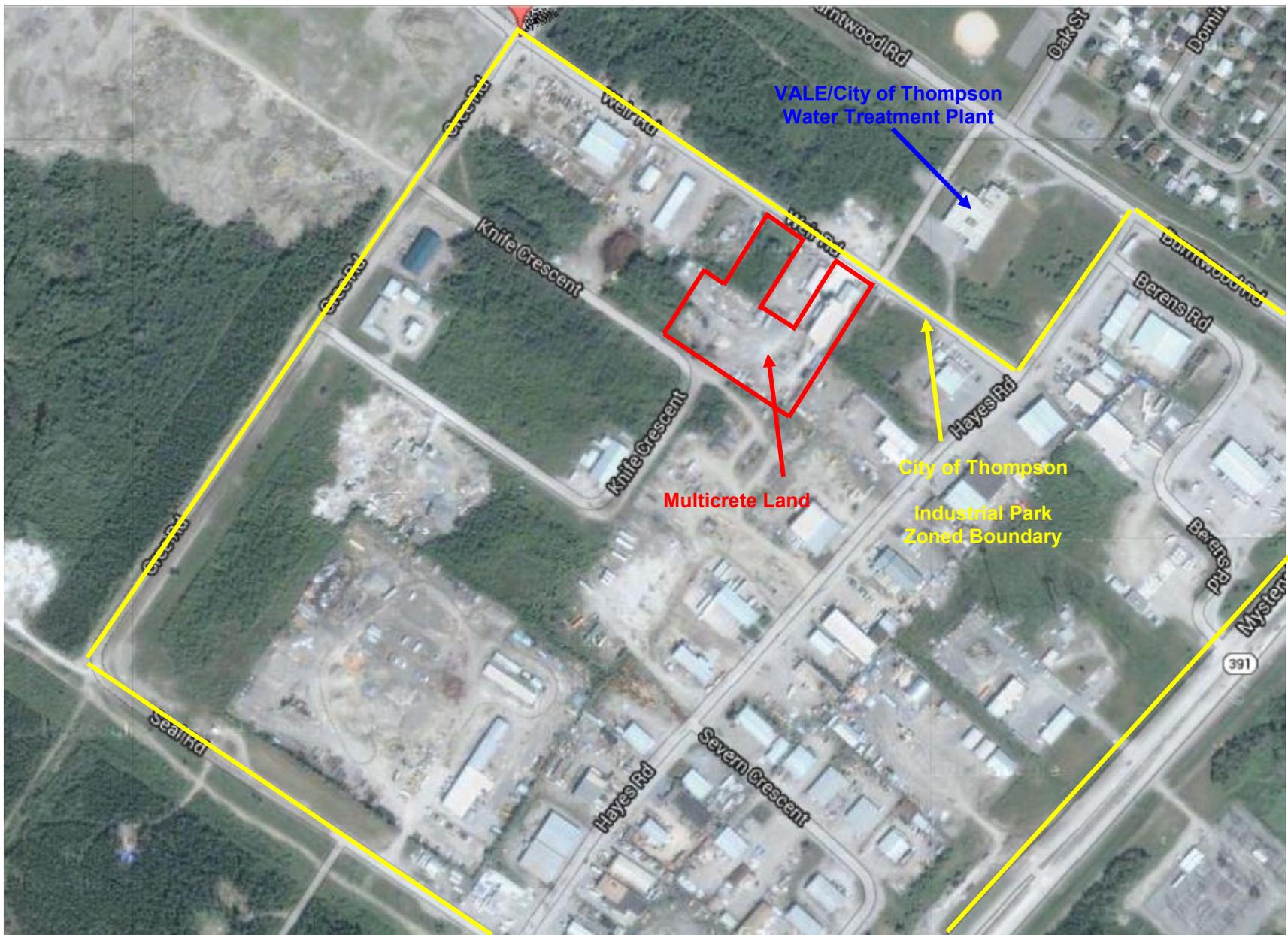
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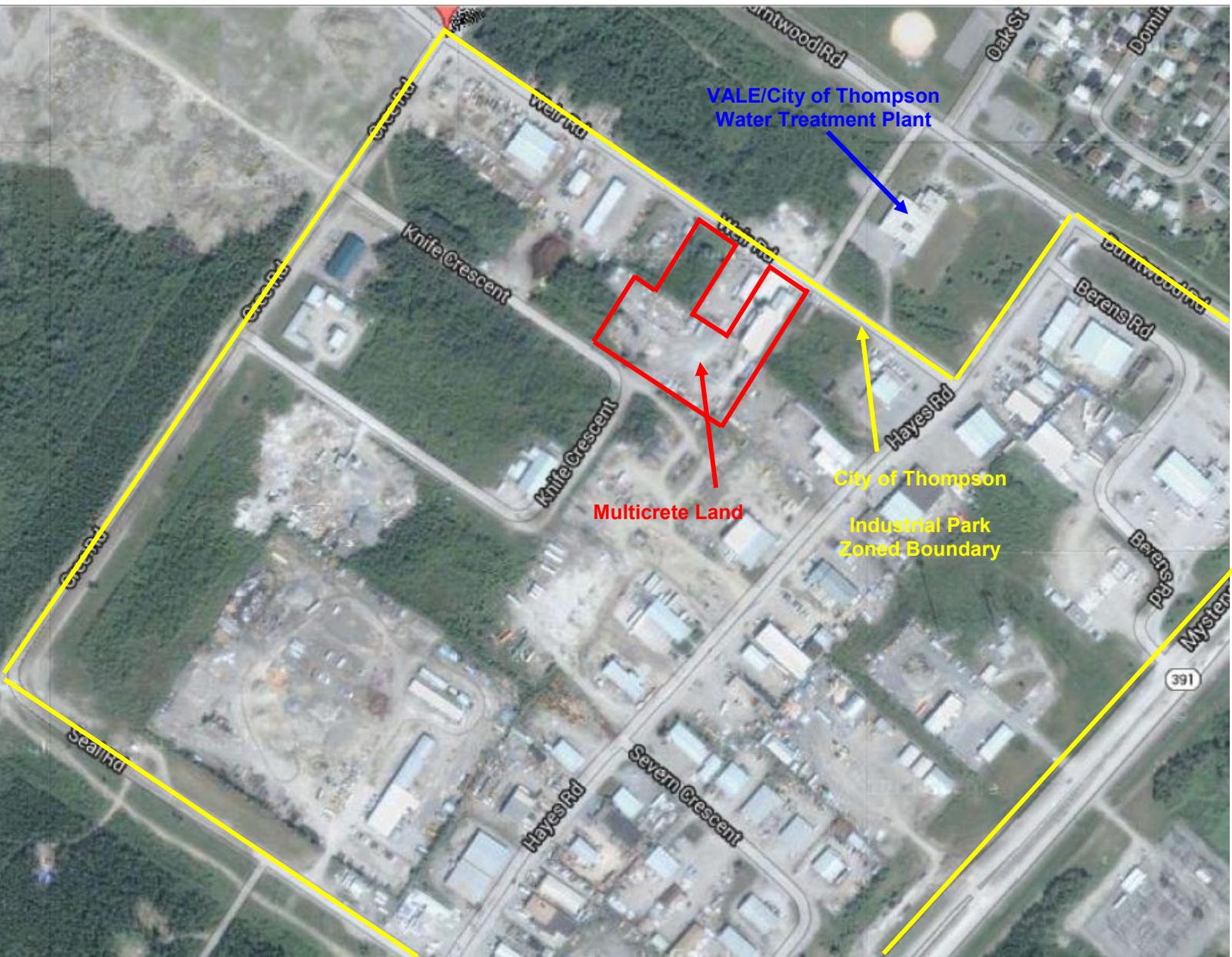
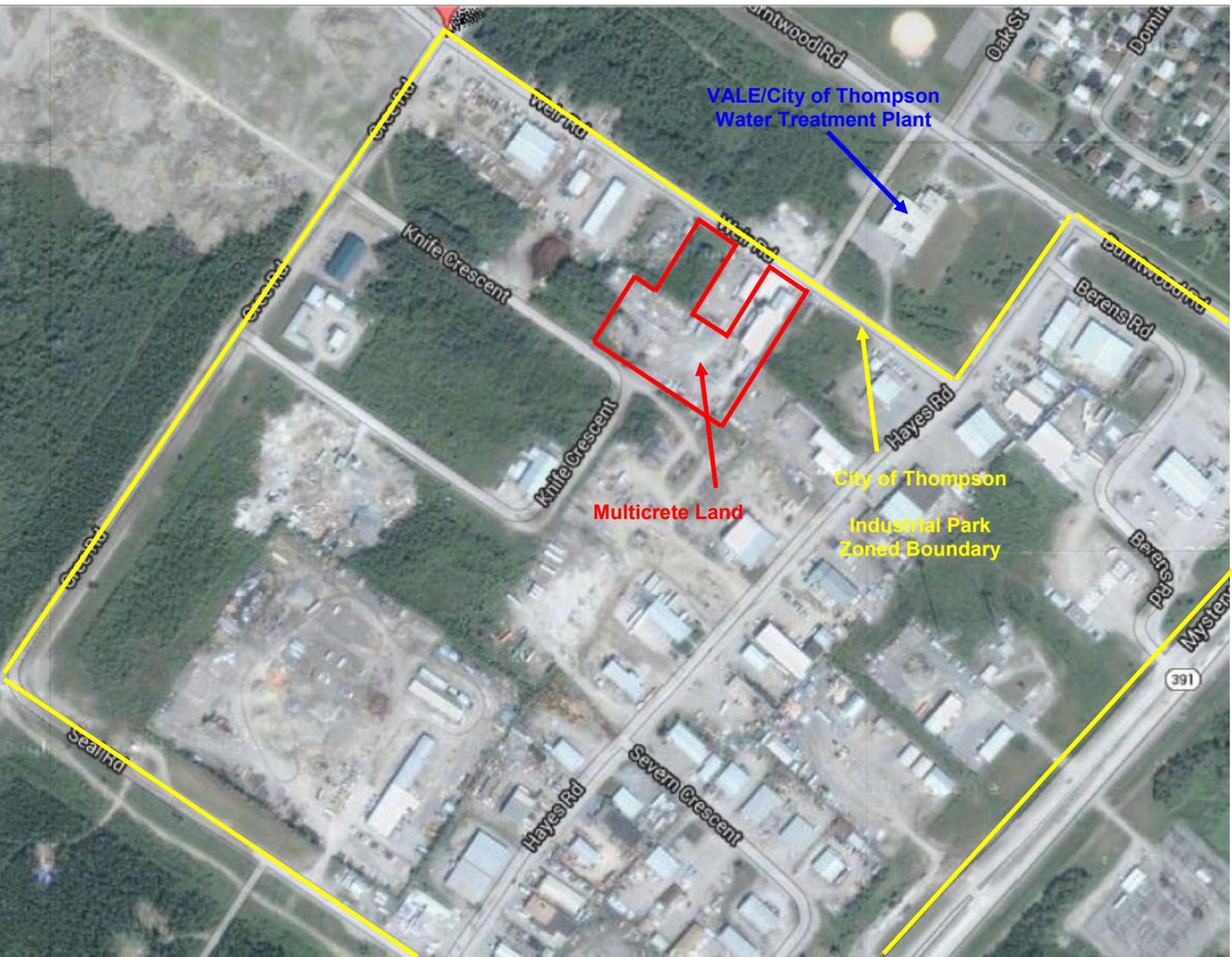


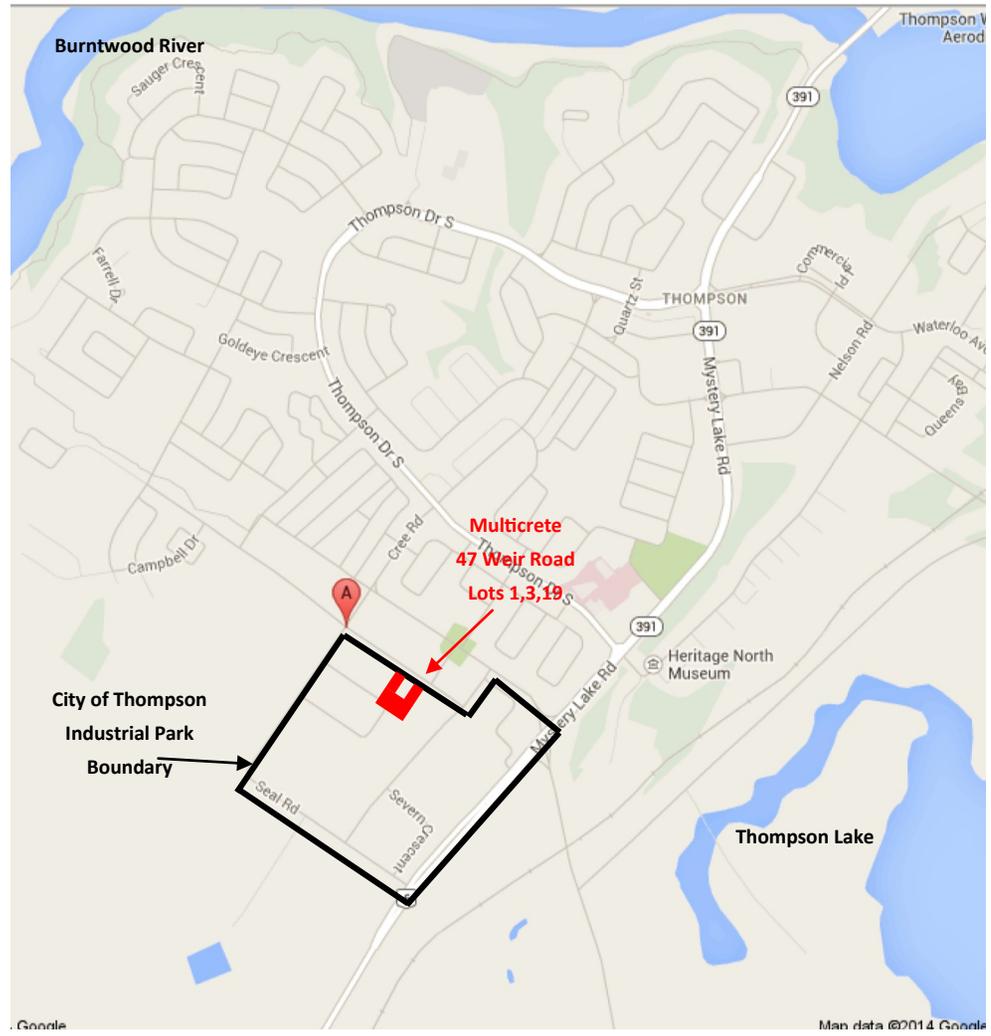


VALE/City of Thompson
Water Treatment Plant

City of Thompson
Industrial Park
Zoned Boundary

Multicrete Land





Appendix C

2013 Property Tax Bill & Business Tax Bill